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EDITED BY
FRANK P. FOSTER, M.D.

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Original Communications.

CONSUMPTION AMONG THE INDIANS.*

By WASHINGTON MATTHEWS, M. D.,
SURGEON, UNITED STATES ARMY.

THE subject of consumption among our North American aborigines presents some interesting problems to the climatologist.

We have permanently established on our soil three of the most diverse varieties of the human species. Two of these have been introduced within a recent historic period; the third has dwelt in the land during a lapse of time which may be estimated only by the geologist; yet we find to-day among the autochthons a much higher death-rate than among the exotic races. From the census of 1880 we learn that the death-rate—*i. e.*, the number of deaths during the year to one thousand of population—is for the three races as follows: Europeans, 17·74; Africans, 17·28; aboriginal Americans, 23·6.

Now the question arises, To what particular cause or causes is this high rate of mortality among the Indians especially due? On this point the Tenth Census seems to leave us not a moment in doubt. In Vol. XI—that on "Vital Statistics," by Dr. J. S. Billings," U. S. A.—we find a table (14) and a diagram (p. xxxvii) showing for whites, colored, and Indians, the proportions of deaths from specified diseases in one thousand deaths from known causes. The diagram is based on the table; but I will allude more to the former, since it gives at a glance the solution to our question. In this diagram there are twenty causes of death specified, and under each the three races are indicated by spaces differently shaded.

Under the heading of "Other Diseases of the Respiratory System" the mortality of the red and black races is about the same. Under eleven headings the black exceeds notably the red in mortality. Only under eight heads does the red notably exceed the black in its death-rate. Six of these are: accidents, diarrhœal diseases, measles, affections of pregnancy, scrofula and tabes, and venereal diseases. Of the latter Dr. Billings says (*op. cit.*, p. xxxvi): "The high proportion of deaths among the Indians which is reported as due to venereal diseases is noteworthy, but probably a part of this is due to a greater readiness to name the true cause among these people than exists among the whites."

From my own experience of the ease with which Indian women travail, and the universal corrobative testimony of explorers and ethnographers, I marvel at the figures given under "affections of pregnancy," which, though not forming an important factor in the Indian death-rate, seem more fatal to the Indian than to the negro. In diarrhœal diseases the Indian rate is not greatly in excess of that of the other classes. Measles, although most fatal in the Indians, gives a mortality of only 61·78 in a thousand. Notwithstanding the perils of a hunter's life, and of life under any circumstances on the frontier, we find that in deaths from injuries, although the rate for Indians is more than that for whites, it is less than for the colored race. But it is under the head of consumption that the Indian column is seen to rise conspicuously from 186 in the colored race to 286 in the Indian. A glance at the diagram shows that this is their specially fatal disease. Scrofula and tabes, being so closely allied to consumption, the numbers under this heading do little more than add to the testimony regarding the prevalence of the latter malady.

Comparing the Indian and white races, we find that from ten of the twenty causes the mortality of the latter is notably greater, under two headings it is nearly the same, and again we see under the title "Consumption" the Indian column rising far above the white, which is about 166 in a thousand—*i. e.*, 20 less than the colored.

The probable inaccuracy of these Indian statistics is fully recognized in the Report, and it may be fairly urged in many cases, but with less justice, I imagine, with regard to consumption than with regard to many other causes of death. In its earlier stages consumption is a malady which often only the most skilled diagnostician can detect; yet in its later stages it is easily recognized. Above all, a death from consumption—using the term in the broad sense, in which it is necessarily employed here and in the vital statistics—is rarely assigned to another cause even by the layman.

We will next endeavor to determine if this disease always existed among the Indians to the same extent that it does now, or if it has increased of late years under the influence of the many complex causes which, not clearly analyzing, we are accustomed to epitomize in the expression "contact with civilization."

My own professional experience among our American aborigines includes a period of twenty-one years, and was gained among the Indians of a dozen different States and territories. Wherever I have sojourned I have always made it a point to give my professional services to Indians ungrudgingly and gratuitously, and for this reason I have had as good opportunities for observing their ailments as usually fall to the lot of the civilized physician. In no place where I have practiced among them have I failed to observe or learn of cases of consumption except in Owen's Valley, California, a locality which is favored with perhaps the most salubrious climate within our borders. It may have existed there, but it did not come to my knowledge during a residence of nearly one year in an Indian population of about eight hundred. Yet even here symptoms of scrofula were not entirely wanting.

My first experience with Indians as a physician was among some of the wildest tribes then existing on our continent, among those least influenced by civilization, prosperous, well nourished, dwelling in the heart of the buffalo-range, and in what has proved to be—since the days of white occupation and the advent of the census-taker—a very healthful climate, the climate of the upper Missouri and Yellowstone Valleys. With certain preconceived notions of the healthfulness of the free out-door life and simple diet of the savage, and a conviction of the salubrity of the dry and elevated plains on which I found him, I was astonished to find that such a disease as consumption existed at all, and still more astonished to find it by no means infrequent.

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* Read before the American Climatological Association at its third annual meeting.

As the years went by, and it fell to my lot to revisit, at long intervals of time, tribes which I had known in earlier days, I became impressed with the idea that this disease was on the increase among them. I well knew how easily I might be deceived in this matter. It was not in my power to collect complete data. I could only draw conclusions from the cases falling within my personal experience, and this experience was subject to limitations which had nothing to do with the prevalence of the disease. In former days the Indians had great confidence in their own shamans and little in white physicians; hence they consulted us less then than at present. In the old times they were wealthy and could afford to pay their extortionate medicine-men for their mummeries; in latter years their poverty compelled them to seek treatment which they could obtain for nothing. Furthermore, when they subsisted largely by hunting, they were much of their time abroad on the prairies and less under our observation.

Notwithstanding the possibility of my being led astray, it seemed evident to me that consumption increased among Indians under civilizing influences, and that its increase was not in a direct ratio to that of other diseases, but in a constantly augmenting ratio—again, that it varied greatly in different tribes.

I should have hesitated, however, to occupy your time with a recital of my convictions or impressions, based on personal experience, were it not that of late years some data have been collected which tend to strengthen them.

As the census reports for 1880 give the vital statistics for one year only, they can not afford any direct evidence as to the increase or decrease of any disease among Indians from year to year; but they give us some data from which we may draw reasonable inferences. They present us with two sets of tables for the Indians—one for those living on reservations, the other for those not on reservations, whom I will call Indians at large. Over two thirds of the latter class live in the States, less than one third in the territories. The Indians at large who reside in the States may broadly be said to represent those who have been brought most fully under the influence of civilization; those dwelling in the territories are for the most part residents of the most healthful sections within our borders (for instance, several thousand of the Pueblos of Arizona and New Mexico are included), and they must serve to reduce considerably the general death-rate and the consumption-rate of the class to which they belong. (By "consumption-rate" I mean the number of deaths from consumption in a thousand deaths from all known causes.) The reservation Indians, on the contrary, with some minor exceptions, are those who have been most recently subdued and brought under civilizing influences.

Let us compare the consumption-rates of these two classes. The rate for the reservation Indians is 184; that for the Indians at large is 373. In other words, the consumption-rate for the less civilized Indians is but 49 per cent. of that of the more civilized. But it may be urged that these figures are not so conclusive as they might, at the first glance, appear to be in determining the mere influence of civilization, since we have not taken into consideration the general consumption-rate of the different localities where the Indians in question are found, and it would be impossible to do so with any accuracy from the published data. I have, however, had access to some of the original reports, in manuscript, from which the statistics of the reservation Indians are drawn, and with these to aid me I have been able to compare the consumption-rates of different local groups of Indians with one another, and with the surrounding general consumption-rate. As far as I have instituted such comparisons, they seem to increase rather than diminish the force of the civilization factor.

The following is the consumption-rate among reservation Indians in thirteen different States and territories: Nevada, 45; California, 70; Arizona, 83; Colorado, 107; Nebraska, 150; Montana, 176; Dakota, 200; Oregon, 240; Idaho, 250; Washington, 302; Michigan, 333; Wisconsin, 361; New York, 625.

It is seen in the foregoing table that in States east of the Mississippi—the oldest States—where the Indians have been longest under civilizing influences, the consumption-rate is the highest.

Now, the general consumption-rate of Dakota is 94, that of the rural districts of New York 152—much less than twice as great; while the Indian consumption-rate of New York is three times that of Dakota. Of the younger States and territories Washington has the highest Indian consumption-rate, yet it is only half the rate of New York, while the general consumption-rate of Washington (136) approximates that of New York closely. Of the States east of the Mississippi, Michigan has the lowest Indian consumption-rate, yet its rate is higher than that of Washington, while its general consumption-rate (137) is about the same. Again, take Wisconsin, in which the Indian consumption-rate is higher than in Washington, and the general consumption-rate (109) is lower.

In the office of the Indian Bureau in Washington, D. C., I have examined some of the reports of the agency physicians from the beginning of the fiscal year ending June 30, 1875, to the end of the fiscal year ending June 30, 1880. It becomes apparent in examining these reports that they are often very imperfect. In some it is evident that no deaths are recorded except those happening to occur in the practice of the physician—a practice often exceedingly limited. Again, there are often long hiatuses of many months in the series of reports, occasioned by the removal of a physician from office and tardiness in furnishing a successor. It is to be regretted, too, that it has not been always the policy of the Interior Department to furnish the Indians with regular medical graduates to treat their diseases and report on their sanitary condition. Still we may conclude that the reports are of some value for purposes of comparison. It is probable that they do not record proportionally more deaths from consumption than from other causes—in short, it is to be supposed that the consumption-rates are comparable.

Proceeding on this supposition, I have computed this rate for two sub-tribes of the great Dakota nation—sub-tribes of the same blood, not expatriated, living in climates not materially different from those which they have enjoyed for a century, and differing from one another only in degree of civilization. These are the people of Santee Agency, Nebraska, and those of Pine Ridge, Dakota. The former are much the more civilized. Many of them have taken lands in severalty, and are citizens of the United States. Nearly all the adults read and write, wear clothing like ours, and are professing Christians. In the fiscal year of 1875 the consumption-rate of Santee was 631, that of Pine Ridge but 96; in the fiscal year of 1880 the rate of the former was 294, while in Pine Ridge no deaths were reported from consumption (but only 6 deaths from all causes in a population of over 7,000 are reported). In comparing, however, the statistics of Santee with those of Rosebud Agency, where there is another community of wild Dakotas, we find the showing for the civilized Indians not so bad. In the fiscal year of 1875 the wilder Indians had the lower consumption-rate (476 to 631), but in 1880 they had the higher rate (388 to 294).

As exhibiting progressive change in the consumption-rate in any one locality, the period of six years referred to above is too short. As far as I have worked out the consumption-rate for more than two years, I have found such great fluctuations that I do not hope for good data for generalization in so brief a period. I have, however, selected the reports from two Dakota agencies, Fort Berthold and Cheyenne River, hoping they might afford us some basis for an opinion. I have chosen these agencies for the simple reason that I have knowledge of the agency physicians, and feel confidence in their reports. The rate of Fort Berthold, computed from the records of the Indian Office, is as follows: For the fiscal years ending June 30, 1875, 41; 1876, 538; 1877, 500; 1878, 250; 1879, 133; 1880, 187.

Here we see that the rate of 1880 is considerably greater than that of 1875, but that during three of the intermediate years the rate is higher than in the last year.

For the rate of Cheyenne River I am indebted to the courtesy of my old and valued friend, Dr. C. E. McChesney, formerly agency physician and now Indian agent at Cheyenne River. The rate is as follows: For the calendar years 1878, 407; 1879, 550; 1880, 425; 1881, 417; 1882, not given; 1883, 561; 1884, 639; 1885, 649.

Here we find that, excepting a slight fall in 1880 and 1881, the increase in the consumption-rate is constant and marked.

In all the examples I have given I have endeavored to select tribes whose climatic environment has not been materially changed since the advent of the white man. The tribes of the Indian Territory, who are largely immigrants in that section, and other removed tribes, have been excluded.

If the evidence adduced is admitted to have value, it goes to show that consumption increases among Indians under the influence of civilization—*i. e.*, under a compulsory endeavor to accustom themselves to the food and the habits of an alien and more advanced race—and that climate is no calculable factor of this increase.

It might be supposed that after many years of contact with this civilization, after several generations of "survival of the fittest" to cope with the new condition of things, and after no small dilution of the Indian blood by intermarriage with the exotic races, a state of tolerance to this disease would be produced; but the consumption-rate of the Indians of New York seems to indicate that a century is not time sufficient to establish such a tolerance.

Although I am not without some theories, based on personal observation, as to the special causes of this excessive tendency of the Indian race to consumption, I have not been able, in the brief hours I have devoted to this paper, to explain these theories fully, and show how they may be tested by the light of external evidence. Perhaps it is not necessary that I should do so before a body who are here to investigate chiefly the influence of climate. The term civilization is too broad, too inexact. What particular element of this civilization is the baneful one? is the question which will naturally be asked. Why does this civilization affect the Indian differently from the negro, who has as lately been introduced to its chastening influence, and is surrounded by conditions even more unsanitary? Recent investigations have demonstrated that the old notion of the red race being a dying race is incorrect. Ethnologically, it is a disappearing race; biologically, it is a living and increasing race. But, even if it were a dying race, why should consumption be its special enemy? Is it because of the meager rations of some poorly supplied agency? If so, why is it so prevalent in well-supplied agencies, and why most prevalent, or at least showing the highest rate, in New York, where the Indians are well-to-do, self-sustaining husbandmen? It is a general supposition on the frontier that it is change in diet which is the most potent remote cause of consumption among Indians. I have heard it said that hard bread killed more than hard bullets. It was a favorite expression of the late General Harney, the famous Indian fighter, that the cheapest way to settle the Indian question would be to take them all into New York and board them at the Fifth Avenue Hotel. His plan was excellent in more ways than one. I once knew a case of a previously healthy Indian camp of about two thousand people where, in one winter, when the buffalo left their country and they subsisted on flour and bacon furnished by the Government, the majority were attacked with scurvy, and about seventy died of the disease. Fine flour and bacon have, no doubt, had their share in the destructive work. But the consumption-rate, I find, is high at agencies where the supply of fresh beef is liberal—to judge from the annual reports of the Indian Commissioner—and it is high among the Indians of New York and Michigan, who have as varied a diet as their white neighbors. "Idiosyncrasy of race" and a score more of theories, trivial and profound, might be advanced and shaken at the first question.

The Manhattan Eye and Ear Hospital.—It appears by the Seventeenth Annual Report that during the year ending September 30, 1886, 9,134 new patients were treated; 7,272 in the eye and ear department, 1,244 in the throat department, and 618 in the department for diseases of the nervous system.

PROLAPSE OF THE LARYNGEAL VENTRICLES.*

By G. W. MAJOR, M. D.,
MONTREAL CANADA.

Prolapse of the laryngeal ventricles, though of somewhat rare occurrence, is much more frequently met with than eversion. It may be as well here to insist upon the need of discriminating between these two conditions, and thus avoid misconception. In deciding upon the term to be applied to a given case, we are of necessity influenced by the extent of displacement. If we were, however, to more carefully consider whether eversion, in its literal sense, were present, we should no doubt be more accurate in our observations. In other words, prolapse does exist without eversion of the sacculus, while eversion can not occur without prolapse having been a factor for some period, however brief, in its development. On the other hand, prolapse may vary very much in degree, from merely filling the laryngeal orifice of the ventricle to dimensions sufficient to entirely destroy voice production and seriously embarrass respiration.

After the articles on this subject by Moxon, Morell Mackenzie, Lefferts, Massei, Waldenburg, Gruber, J. Solis-Cohen, John N. Mackenzie, and Elsberg, literature so familiar, it would be but mere repetition to go into a detailed general statement of the conditions so minutely described by these authors as met with in displacement of the ventricles.

Five cases in all have been seen by the writer: two of these examples of eversion, and three of simple prolapse of varying extent.

Case I.—W. W., aged twenty-five, railroad clerk. His family history is good; father died of paralysis, aged sixty-two years; mother living, aged fifty-five. In all, ten children were born, eight still living, varying in age from seventeen to thirty-three years, while two died in infancy.

In March of 1883 the patient contracted a bad cold, accompanied by severe cough, but is quite positive that his voice was not then affected. In May of the same year he consulted his usual medical attendant about his condition, and was prescribed an ordinary linctus. In the following June hoarseness *gradually* developed, and continued with aggravation up to the time of his first visit.

On January 30, 1884, when he came under notice, there was evidence of impaired general health, speaking fatigued him, produced local irritation, and provoked fits of a dry, rasping cough. In walking his breathing was difficult, and altogether the man presented the appearance of one whose air-supply was less than normal. His voice was almost extinct. On examination, the larynx and surrounding parts were found to be intensely congested and the arytenoid bodies swollen.

On full inspiration, the right vocal cord was found discolored, thickened, and eroded, and was visible throughout its length, but not its breadth. The line of separation between the cord and the ventricular band was absent, but its situation was occupied by a red flesh-like roll of almost equal dimensions throughout its course.

The left vocal cord, on full inspiration, was invisible through its entire length, and its field was covered by a fold of red tissue tapering at either extremity.

On phonation, these bodies retracted somewhat, meeting, however, at their central point, gradually shading off anteriorly and posteriorly, and having small triangular spaces with the apices directed inward, through which the vocal cords were with difficulty visible.

On attempting a high note, the displaced ventricles were forced still farther apart, the ventricular bands advancing, in order, as it were, to re-enforce the vocal cords. A chest examination detected no signs of pulmonary disease. There had been a progressive loss of weight and strength.

Local treatment was carried out steadily for sixteen months, with satisfactory results, as far as the general condition of the larynx was concerned, but with little material improvement to the prolapsed ventricles.

In May, 1885, treatment was omitted for four months, owing to the writer's absence in Europe. The patient followed out his instructions either ineffectually or unfaithfully, for, when he was examined in October of that year, a large mass, presumably tuberculous, had developed on the laryngeal face of the right arytenoid, extending somewhat into the commissure. The lungs also showed well-marked signs of deposit, while the general health had greatly suffered.

Under careful treatment, this mass has since almost entirely disappeared, the ventricles still retaining their abnormal position.

This case was exhibited at the last fortnightly meeting of the Medico-Chirurgical Society, at Montreal, in April of this year.

Case II.—Mrs. R., an old subject of specific disease, had been under observation some years previously for caries of the jaw. This woman was admitted into the Montreal General Hospital in an insensible condition, with well-marked convulsive movements of the right side of the body. After partial recovery, her attendant requested a laryngoscopic examination to account for aphonia and stridulous breathing, evidently suspecting a central lesion as the cause. The right sacculus was found completely everted, and protruded beyond the median line. This accident must have occurred during the eclampsia, as previously, though her voice had suffered from old laryngeal syphilis, there had been no difficulty in breathing. Post mortem, the right wing of the thyroid showed signs of old disease, and the ventricle was found completely everted.

Case III.—H. D., aged thirty-two, a cab-driver, contracted syphilis in October, 1874, and had remained under treatment for several months.

On February 11, 1884, he applied for relief for aphonia and attacks of suffocation. On examining the larynx, there was noted eversion of the right ventricle which covered the corresponding cord completely on quiet respiration, and on full inspiration protruded far beyond the median line. On attempted phonation, it receded somewhat within the ventricular opening.

On examining the scalp, large syphilitic ulcers were found.

Astringent sprays were applied locally, and full doses of iodide of potassium, increased *guttatim*, were ordered. During the six or eight weeks that the patient remained under observation some slight improvement followed. The man passed from under notice, and was not again seen until the 29th of April, 1885 (rather more than a year afterward), when sent for for purposes of class demonstration. The ventricle was found to have *spontaneously* reposited itself, and but very slight traces of prolapse existed. He stated that, shortly after his last visit, he had contracted acute articular rheumatism, and during the illness the breathing had gradually improved; the voice, however, owing to chronic catarrhal causes, still remained hoarse.

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* Read before the American Laryngological Association at its eighth annual congress.

This case seems remarkable, if not unique, and mainly induced the publication of these records.

Case IV.—M. B., a railroad contractor, came under treatment last winter for laryngeal stenosis. He had contracted syphilis eighteen years before; in the course of the disease his larynx was involved, and he had been aphonic ever since. On examination, the left vocal cord was found wanting, and a small, pale, pink roll (prolapse) above its level represented it. The voice, such as it was, was produced by the ventricular band of the affected side, probably assisted by the prolapsed ventricle.

Case V.—T. P., aged twenty-nine, barber by trade, a subject of pulmonary tuberculosis, was referred from the wards of the Montreal General Hospital during the past winter for examination and report. There were laryngeal signs of tuberculosis and commencing ulceration. Both laryngeal ventricles were found prolapsed, obscuring the vocal cords through four fifths of their breadth. Applications of a weak solution of chloride of zinc, and insufflations of iodoform, morphine, and gum acacia gave decided relief.

In deciding upon the character of these cases, the means employed were palpation and ability to replace with a laryngeal probe, as well as the observation of partial retirement on phonation. Some of the cases reported as prolapse have been, in point of fact, cases of eversions proper. The terms prolapse and eversion have been, to some extent at least, used synonymously, and hence the creation of some confusion. The conditions which favor displacement, if we exclude pressure from without from whatever cause, the violence of coughing, and that of spasmodic attacks, seem to be various constitutional states which play an important rôle in its production. In the five instances under consideration, three examples occurred in individuals of syphilitic habit, while the remaining two were in subjects of tuberculosis.

Among the cases previously recorded by the authorities before named, cancer, tubercle, syphilis, or chronic catarrhal conditions prevailed.

ANTISEPTICS:

ARE THEY ESSENTIAL TO SUCCESS IN SURGICAL AND OBSTETRICAL PRACTICE?*

By S. H. BENTON, M. D.,

BROOKLYN.

It is with a certain degree of hesitation that I offer the society a short paper on a subject which has doubtless long since been settled to the satisfaction of all its members—viz.: the use of antiseptics in the treatment of wounds and labor cases. I shall not discuss the scientific aspect of antiseptics, or the bacterian problem, but shall confine my remarks mostly to the more gross and practical points observed by a general practitioner who has not, perhaps, had enough experience with antiseptic agents to become very enthusiastic over them.

He would, indeed, be a bold man, if not a bad one, who proclaimed this system a phantasmagoria, a product evolved from the fertile imagination of the advanced medical thinker. Such an one would be immediately frowned down, and silently relegated to that oblivion which his temerity justly deserved. At the same time, is it not barely possible that the profession is a little over-persuaded on this subject, and asked to accept as facts many statements that, at the best, are only theories? I do not allege that this is so, but is it not possible?

I am thoroughly in sympathy with any method, mechanical or therapeutical, that will aid us in achieving better results in surgery in the future than in the past, and sincerely hope that the signs of the times are not deceiving us; when every woman shall bring forth and every patient shall pass from under the surgeon's knife with perfect impunity to health and long life. If this attainment is reached, it must be, according to the latest writers, by the use of antiseptics.

There has probably been no discovery by modern pathologists that has astonished the medical world more than the discovery, with the microscope, in animal secretions, of certain living micro-organisms which are classed as bacteria, the existence of which in the living tissue is looked upon as highly pernicious, and, if not destroyed by local treatment, are absorbed into the general circulation and thereby cause septicæmia, pyæmia, and a long list of diseases called blood-poisoning.

Just how to meet this great army and extinguish it is occupying the minds of medical men, as shown in medical journals.

We are not told that this microscopical life has not existed from time immemorial in suppurating wounds and decomposed animal tissue, yet one might almost infer that infection with bacteria was a new and heretofore unknown epidemic, and could and must be immediately suppressed.

By common consent, the profession has generally come to the conclusion that the salts of mercury are the best of the long list of germicides, but occasionally a writer announces that he has made a great discovery, that some other agent has greater merit than, or certainly as great as, the corrosive chloride, and he forthwith proceeds to give a long list of cases treated by the new remedy, the results of which are equally as good as those attained by any other method, and the new treatment has characteristics that commend it to the favorable consideration of the surgeon which others do not possess. Thus it is that the ball is kept rolling, and the end is not yet.

While I believe in the old proverb that "cleanliness is next to godliness," I must also believe from experience and observation that much that is written relative to antiseptics is more imaginative than real. That the great reduction of mortality in operative surgery is due entirely to antiseptics I can not comprehend. Much more credit for these results is due the surgeon of accumulated experience for the rapid and dexterous use of the knife and manipulation of the parts operated upon.

While it may seem presumptuous for me to question the validity of the statement of our eminent gynæcologist, Dr. T. G. Thomas—viz., that the puerperal woman should be looked upon as passing through a capital operation and subjected to the ante- and post-partum course of treatment which he thinks is necessary—yet I do not think I am alone in so thinking. This may be the proper course to pursue in the wards of hospitals, where everything is in a septic condition, but in general practice, and especially in the country and villages, it will be hard to make the profession believe it necessary, for they can show as good results without antiseptics as the city physician can with them.

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* Read before the Medical Society of the County of Kings, June 15, 1886.

The first thirteen years of my practice were passed in the mining country of Pennsylvania. I had a fair share of obstetrical and surgical experience during that time. By referring to my notes, I find I attended a few more than twelve hundred cases of confinement, and in no case did I use vaginal injections unless there was an odor present from decomposed fragments of placenta or other cause, and then only carbolic acid, which to-day is considered to be of very little use as an antiseptic. I had four cases of puerperal fever and one of metro-peritonitis; all ended in recovery but the latter, and all did not follow manual delivery.

Just how much the absorption of bacteria into the circulation had to do with causing the puerperal fever developed in these cases I do not pretend to know. Some of them, and perhaps all, may have been caused by a more or less extensive laceration of the cervix—as the detection of that complication is of comparatively recent date—or some abrasion along the surface of the vagina, thereby permitting the absorption of septic material. But I do know that injury was done to the genital tract in a good many of my cases during the second stage of labor, and no manifestation of blood-poisoning was developed in any of them, unless it was in the fatal case of peritonitis mentioned above. In this case the patient had been in hard labor for twenty-four hours, when reluctant consent was given to use the forceps. The child weighed fourteen pounds. The perinæum gave way, but was immediately restored with silver sutures, and my patient died on the third day after confinement. A different result might have been attained by intra-uterine injections of the bichloride, but I did not know that it was the correct thing to do.

In amputations and the treatment of contused and lacerated wounds I have never used antiseptics during the operations or subsequently, and my results have been all that the most fastidious surgeon could ask. To be sure, I have had no hospital experience in surgery, but many amputations have been done under the most unfavorable surroundings, patients being taken from the dirty machine-shops or railroad trains to a filthy shanty or poor boarding-house, with the bedding almost black with filth and long use, and the whole house pervaded with an odor anything but pleasant to the olfactories. No special attention was given the limb as regards cleansing the parts adjacent to those to be operated upon, as is thought so necessary to-day. Many mangled and contused limbs were brought to my office on a train, swathed in dirty waste, such as engineers use to wipe their engine, or any fabric that would tend to arrest hæmorrhage, and, notwithstanding these supposed unfavorable hygienic conditions, I have never had a case of pyæmia, septicæmia, or surgical fever follow an amputation.

Just why my patients have not been punished for my neglect in not carrying out the strict principles of antiseptics as taught to-day I will not attempt to explain. My indifference to the absorption of septic material may be called culpable, but I did my work according to the best light I had on the subject, and my cases did well. While thinking on this question of antiseptics a few weeks ago, I wrote my friend, Dr. F. F. Davis, of Oil City, Pa., whom I knew to have had a large army as well as private experience in surgery, for his experience with antiseptics. The doctor writes as follows:

> "I have been induced to use a 1-to-1,000 solution of bichloride in two amputations, but, as one patient died from anæmia, and the other is dying from cancer, I can only say that pus formed freely in the former case, and has never been absent from the latter. The effect of the bichloride was certainly *nil*. While on the subject of amputations and operations, permit me to say that I have had, since the late civil war, fifty-three amputations of the arm and leg, and I have never lost a case of amputation of arm or leg, foot or hand; all have recovered from the operation.
>
> "Even the case detailed above made a fair result, and, excepting the cases mentioned above, I have always operated without any antiseptic precautions. Indeed, in the larger part of my operations no pus forms. I have in one operation used partially crushed tissue in the formation of the flaps, the operation being close to the shoulder joint, and in this case no pus formed. The treatment I make use of is as follows: Carefully wash the stump with water, 'cool,' see that all hæmorrhage is arrested, then close the wound and support the stump, and keep the wound moist with a mixture of two parts of laudanum and six parts of whisky, diluting the mixture as the wound heals. In regard to confinements, I have now attended in round numbers a few more than fifteen hundred, and, in my own service, have not lost a case of childbed fever. I have never used injections other than pure water, 'warm,' except in a few instances when urgently recommended by a consultant, and in no case has the result been better than when pure water was used. I have never used injections of any kind in normal labor cases, only using them when there was sloughing of the vaginal mucous membrane, as in severe forceps cases, or where fragments of decomposed placenta were the cause of fœtid or excoriating discharges."

Dr. J. A. Ritchey, of Pennsylvania, my former associate, writes me as follows:

> "I have had, as you know, a large experience in general surgery, such as railroad injuries and accidents peculiar to a mining country. The first ten years I used no antiseptic precautions whatever, but the last five years I have used the most fashionable antiseptic agents in surgical cases, but I can not honestly say that my results have been more satisfactory under the new than under the old method. I have attended more than one thousand cases of confinement, and have never used any special antiseptic treatment either before or after labor. I find by reference to my notes that I have had eight cases of puerperal fever among the whole number, and in every case I have been able to trace contagion to erysipelatous cases attended by me. In this neighborhood hundreds of poor women are attended by midwives, and I have never heard of a case of childbed fever among them, and I know they never use vaginal injections."

On December 8, 1885, I was called to attend Mrs. S., aged twenty-four, in her second labor. I washed my hands thoroughly with soap and water, and thereafter with a 1-to-2,000 solution of bichloride, as I had been doing for some time, in all cases, before approaching the patient. The labor was terminated in four hours, without any accident to the cervix or vulva. The placenta came away in a few moments intact, and no hæmorrhage followed. The nurse came in after the patient was dressed and at rest. She told me incidentally that she had come from her last case about three weeks previous, and that the woman had died from childbed fever. This news made me uneasy, and I suggested that she had better retire from the case, as a precautionary measure, but, as she had nursed Mrs. S. in her previous sickness, the patient insisted that she be allowed to continue and she would take her chances. So I ordered the nurse to change her garments to the skin and thoroughly wash her person, and then bathe the whole body in a 1-to-2,000 solution of bichloride, which she did, giving special attention to her hands, all of which was to be done before she touched the patient. I ordered injections of the above-mentioned solution every six hours, a napkin damp with the same being kept applied to the vulva. The patient did well until the night of the third day, when I was summoned to see her; she had had a chill and was then in a high fever, with severe pain in the abdomen. I gave one third of a grain of morphine hypodermically, and ordered turpentine stupes applied over the bowels. At my morning visit I found her in great pain, abdomen tympanitic, pulse 140, temperature 104° F. Opiates were administered to toleration, and intra-uterine injections of bichloride solution were used every four hours by myself, with cold to the abdomen. The second day there was no reduction of temperature. The abdominal pain was kept under control by hypodermics.

During the night of the second day of the fever I gave thirty grains of antipyrine, and in two hours followed it with twenty grains more, which reduced the temperature to 101·5°, with great prostration, the pulse being 120. In six hours the temperature reached 105°. The case continued for six days without perceptible change in its gravity, when she slowly convalesced, and eventually was fully restored to health.

In this case every sanitary or antiseptic precaution was observed, both before and after confinement, to prevent and arrest septic poison, with the result above stated. I had had regrets when the fever was developed that I had yielded to my patient's solicitation to let the nurse attend her, as I have always thought that puerperal fever was communicable by contagion, yet this case seemed to me to be favorable to test the new theories of antiseptics in these cases. It can hardly be alleged that the nurse was not properly disinfected, for she seemed to be an intelligent woman, and seemed to comprehend also the possible danger of her inoculating the patient.

I do not want to be understood as placing myself upon record as being opposed to antiseptics, for I do think them useful; but just how much greater function they subserve than absolute cleanliness I must confess I do not know. Is it not possible that we are passing through an experimental period in medicine, when men are more anxious to distinguish themselves in certain departments than heretofore? If this is so, is it not possible for us, in our enthusiasm, to trespass upon the kind offices of nature and do our patients more harm than good by our too zealous officiousness? I am in full sympathy with the fear expressed by my friend, Dr. W. W. Potter, of Buffalo, while discussing a paper on obstetrics at the late meeting of the American Medical Association, viz.: "Before long we shall be cremating every woman who has borne a child—she is so foul!" We may eventually, also, find it necessary to remove the uterus and occlude the vagina of all female children that they may be at all tolerable to the profession.

Some imaginative and wonderfully learned scholars tell us that every snowflake is inhabited by happy little beings, who begin their lives, hold their revels, live long lives of happiness and delight, die and are buried—all during the descent of the snowflake from the world of clouds to the solid land. These scholars tell us that every square foot of air possesses from 12,000,000 to 15,000,000, more or less, perfect little beings, and that at every ordinary breath we destroy 1,000,000, more or less, of these happy lives. According to this mathematical calculation, a healthy lover must be supposed to swallow up as many as 14,000,000 of these animals at an ordinary sigh, and, if he is much of an athlete, the number would be beyond computation. We are not told that this microscopical life has any likeness to the different types of bacteria with which the profession is so much interested at present, but we trust not.

It must be acknowledged that the bacterian problem is expected to be a colossal monument to round off the nineteenth century in medicine. But has it been proved beyond the possibility of a doubt, by a long enough series of experiments, that certain germs will invariably produce certain diseases? And if this is so, have we been told how to prevent the development and absorption of the same into the circulation?

It will doubtless be said that a faithful and intelligent use of the various so-called antiseptics will do this, and that it is not worth while to discuss the subject further. This, I think, should be taken with the least grain of salt.

What the general practitioner most desires are facts, not theories, especially since to carry out certain measures will incur increased physical distress and annoyance, as well as pecuniary cost, all of which is to be taken into consideration by the conscientious physician.

PERNICIOUS ANÆMIA.

A REPORT OF FIVE CASES.

By LOUIS ASTA-BURUAGA, M. D.,
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In publishing the following examples of that obscure but most interesting disease, pernicious anæmia, I am aware that their histories are in many respects incomplete; yet I am satisfied that, in so doing, a contribution is made to the number of cases reported as occurring in this country. The figures given by Musser in 1885, who compiled only thirty-nine cases of pernicious anæmia from American medical literature, seem to me very meager. On the other hand, abroad the statistics are more numerous; if we add up the cases collected simply by Coupland and Pye-Smith in England, and by Müller, Quincke, and Eichhorst in Switzerland and Germany, we have about four hundred well-authenticated examples of the disease. On this rough estimate the proportion of cases seen in these three European countries alone, to those observed in America, would be about ten to one. But, comparing the registers of Guy's Hospital in London with those of the Roosevelt Hospital in New York, we find that in the former twenty-eight cases have been entered and in the latter eight cases, a proportion of three and a half to one. This is not a large margin, if we consider the difference in the accommodating capacity of these two institutions.

Allowing that pernicious anæmia is not so very rare an affection, one has to concede that it is a disease of comparative recent date; for, although Marshall Hall in 1839 alluded to "fatal chlorosis," and Addison in 1855 described an intense form of anæmia, terminating in death, without "any organic lesion that could properly or reasonably be assigned as an adequate cause for such serious consequences," yet the affection was not well recognized until Gusserow, in 1871, and Biermer, in the succeeding year, called attention to it in a series of startling cases, most of which followed the puerperium. The publications of these two observers led the way for various clinical contributions and monographs on the subject on the continent and in Great Britain. But not until 1875 was the disease brought prominently before the American medical profession, when Pepper, in an article headed "Progressive Pernicious Anæmia," described three cases, accompanied by exhaustive remarks upon its history, pathology, symptomatology, and treatment. Since that time, aside from Musser's paper, little has appeared upon the subject in the medical journals of this country.

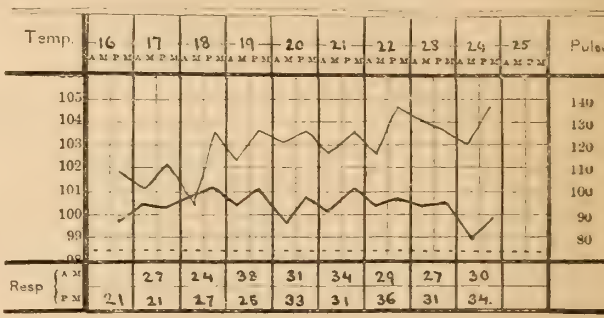
It is not strange, then, that many well-marked cases of pernicious anæmia are passed by unrecognized. In the different text-books one can find admirable descriptions of the complaint; but if, as is of no uncommon occurrence, one does not happen to have a case pointed out as pernicious anæmia at the clinic, one is apt to forget that there is such a disease. As illustrating this point, I may state that one of the cases here published—the last one of the series—had been seen by a number of physicians before it was admitted to hospital, and, although several diagnosticated the case as cirrhosis of the liver, Bright's disease of the kidneys, etc., and one even suggested acute yellow atrophy, not one seemed to think of pernicious anæmia.

Of the eight cases which have been seen at the Roosevelt Hospital, seven were in males. Three were discharged unimproved, and passed out of observation. The remaining five are the ones I now report, the last three of which I had an opportunity of observing and studying myself. Four of these cases died and one recovered.

Case I.—Martin S., aged forty, a German, and a baker by trade, was admitted to hospital on the 16th of May, 1881, suffering for the last four weeks with frequent vomiting, shortness of breath, considerable pain in the back, and œdema of the feet. Two weeks later he developed œdema of the hands. He thought that he passed less urine than formerly, but he had had no headache, no amblyopia, no muscæ volitantes. He admitted that he had always been a hard drinker of beer and liquor, and stated that two years previous to his coming to the hospital he had had chills and fever.

Upon examination, he was found to be poorly nourished, his skin was sallow, of a jaundiced hue, his lips were colorless, his conjunctivæ yellowish, and his tongue was very anæmic. His hands and feet were a little swollen and œdematous. There was a slight blowing systolic murmur at the base, most distinct to the left of the sternum, and a faint systolic murmur at the apex of the heart. The radial arteries were stiffened, and the pulse was small, quick, and feeble—108 to the minute; temperature, 99·8° F. His urine was acid, of a specific gravity of 1·013, and contained no albumin.

While under observation he suffered from constant pain in the epigastric region, with tenderness on pressure there, but no vomiting nor diarrhœa were noticed. During this time he had a low fever, never higher than 101°. He grew drowsy and apathetic, complained little, passed his urine and fæces under him in bed, or got out of bed and passed them on the floor; and, the drowsiness and prostration increasing, he died on the 25th of the same month, much reduced in flesh.



At the autopsy the following appearances were found: Body, emaciated; blood, thin and watery; brain, pia mater and brain substance very pale; large amount of serum beneath the pia; heart, pale-yellow, clot in right cavities; lungs, old adhesions over right lower lobe, both lungs œdematous; liver, small, firm, pale-yellow; gall-bladder filled with yellow bile; kidneys, medium-sized, pale-yellow; spleen, rather small; stomach, normal; some of the intestines were adherent in knuckles by old adhesions.

Case II.—On the 4th of December, 1884, Samuel H., aged fifty-two, of New Jersey, an engineer by occupation, applied for admission to the hospital, stating that, since the preceding June, he had been troubled with shortness of breath upon exertion, a feeling of languor and indisposition, pain and oppression in the epigastrium after the ingestion of food, and numbness of the lower extremities. He had been pale, his skin being of a yellowish hue, for some time. He had noticed no change in his urine, denied syphilis, was a moderate drinker, and gave no history of malarial fever.

Upon examination, he was found to be well nourished and slightly jaundiced, his mucous membranes were very anæmic, and his tongue was clean and moist. The physical signs of emphysema were present, and a systolic murmur was heard at the apex of the heart. The pulse was of good strength, beating 90 to the minute. Respirations, 20. Temperature, 100° F. His urine was acid, amber in color, and contained no albumin. The treatment of the case consisted in the administration of iron, and of oxygen by inhalation.

While under observation the following symptoms were noticed: An irregular febrile movement, the temperature ranging from 98·8° to 101·8° F., a slight cough, sweating, epigastric pain, vomiting, obstinate constipation, and progressive prostration. On December 19th he coughed up a little blood. By the 30th he was much more debilitated; temperature, 102·6°; pulse, 130; respirations, 36. During that night he was restless and delirious. The next morning his temperature reached 104° F., but toward evening it fell to 100·2°. From this time on he continued extremely prostrated, he lost control over his sphincters, his articulation became imperfect, and he lay in a condition of semi-coma, accompanied by low muttering delirium, up to the day of his death, January 3, 1885.

A post-mortem examination made by Dr. Delafield revealed the following facts:

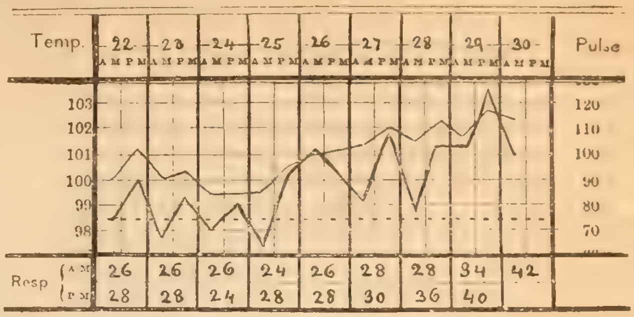
Body fairly nourished, quite a thick layer of subcutaneous fat; color a little like jaundice; blood thin and watery. Lungs: In the upper part of the lower lobe of the left lung there was a small infarction surrounded by a zone of pneumonia; rest of lung was anæmic; the lower lobe of the right lung was in a condition of mottled red and gray hepatization, with fibrin on the pulmonary pleura; heart normal, except for a little thickening of aortic and mitral valves. Liver: The gall-bladder was distended with bile, and there was bile in the larger ducts in the liver; otherwise apparently normal; spleen, medium size and normal consistence; stomach, mucous membrane pale and coated with mucus; small intestine pale, no lesions; pancreas appeared normal; supra-renal capsules were normal; kidneys were of natural size; capsules non-adherent; the cortex was congested and the pyramids were pale.

In these two cases no record was made of the condition of the blood and fundus of the eye; but in other respects the histories, coupled with the post-mortem appearances, give a fair idea of the course of pernicious anæmia. The interesting feature about Case II was the development of a complicating pneumonia, which probably hastened its termination.

Case III.—On the 22d of July, 1885, Charles P., a butcher, aged fifty, came to the hospital complaining of dyspnœa, palpitation of the heart, præcordial pain, anorexia, vomiting of food, a slight headache, and considerable prostration. He had been troubled with these symptoms for about six or seven weeks, and for the last month diarrhœa had been added to them. Although a German by nationality, he was but a moderate drinker of beer. He had had a cough, accompanied by scanty expectoration, for twenty years, and of late this cough had grown worse. Three or four months before date of admission a piece of iron fell on his right leg, since which time the limb had been swollen and painful. His wife stated that for the last few days he had been stupid and drowsy.

When he came under observation the man was well nourished, his skin was pallid, his mucous membranes were very anæmic, and his tongue was pale and denuded of epithelium. Upon being examined by Dr. Roosevelt, under whose care he was, there was found some loss of motion on the left side of the chest. An exaggerated percussion-note was elicited; exaggerated vesicular murmur and sibilant and sonorous râles were heard all over the chest. The apex of the heart-beat was in the sixth intercostal space and mammillary line, and a systolic murmur was detected over the mitral area. The pulse was regular but rather weak, 90 beats to the minute. The blood was pale and liquid, the red blood-cells were markedly diminished in number, and some were larger than the normal. The urine was acid, amber in color, of a specific gravity of 1·010, contained no albumin, but one or two hyaline casts were found under the microscope. Upon examining the patient's eyes, the pupils were found contracted, but they responded to light. The fundus oculi was pale, and there were numerous retinal hæmorrhages. The patient was put on the use of iron and digitalis.

During the last few days of his life the curve of his temperature was irregular; from 97·4° it would rise to 101°, and, on one occasion at least, it rose to 103·6°. The patient continued in an apathetic condition, growing so weak that he had no control over his sphincters, and the stupor, alternating with delirium, finally culminated in coma, in which state he died on the 30th of July.



Autopsy.—Body fairly nourished; some rigor mortis; brain anæmic, otherwise normal; lungs emphysematous, old, interlobular pleuritic adhesions; general bronchitis; lower lobes œdematous; heart large, flabby, ventricles dilated, without hypertrophy; apparently insufficiency of mitral valve due to dilatation; valves normal; cavities contain clots; spleen large and soft, containing a small red infarction; liver large and pale; bile-ducts stained with bile; small intestine normal; large intestine normal; stomach normal; kidneys normal size, capsule non-adherent, surface smooth, cortex normal in thickness, mrkings distinct, pyramids very pale, left kidney larger than its fellow; bladder normal.

This case might have been diagnosticated by many an observer as one of mitral insufficiency and chronic Bright's disease, on account of the systolic murmur and the presence of casts. Subsequent examinations of the urine, however, did not disclose any albumin or any more casts, although the specific gravity remained low. The murmur might have been hæmic. The hæmorrhages into the retina were the typical ones of pernicious anæmia. Their presence, together with the ghastly pallor, irregular temperature, extreme hebetude, and absence of definite signs of disease of any particular organ, all pointed toward the affection. The examination of the blood strengthened the diagnosis, and the autopsy confirmed it.

Case IV.—James W., an Irish-American, aged thirty-six, was admitted to the service of Dr. Delafield on the 23d of January, 1886. Upon questioning him he gave the following history: During the last three months he had lost his appetite, had a feeling of general malaise and lassitude, an indisposition to work; upon exerting himself, dyspnœa would set in, and he had had several attacks of cardiac palpitation. His skin had been getting pale since the preceding autumn. He was subject to headaches, and muscæ volitantes were plentiful in his field of vision; upon suddenly assuming the erect posture he would stagger and feel dizzy. A week before entrance to hospital he had one or two epistaxes, the blood looking thin; as he expressed it, "as if it contained one quarter pure blood and the rest water." About this time œdema of the lower extremities developed. Aside from anorexia, no gastric symptoms were manifested.

On admission, the patient, although he said that he had lost considerable flesh, was still fairly nourished. He had an anæmic, cachectic look, the pallor of his face being extreme, and the whiteness of his mucous membranes remarkable. His conjunctivæ were pearly white. His tongue was denuded of epithelium, glazed, and in places the papillæ projected. There was some subcutaneous œdema about the ankles and insteps. The heart-beat was in the fourth intercostal space and nipple-line, and there was a blowing systolic murmur heard to the left of the sternum, opposite the third and fourth ribs. The veins of the neck were distended and pulsatile, and a bruit was heard over them. The pulse, beating 104 to the minute, was of fair strength; if anything, the blood tension was heightened. His breathing was rather hurried (28), and his temperature was 100° F. His urine was amber in color, acid in reaction, of a specific gravity of 1·014, and contained no albumin. Upon examination with the ophthalmoscope, the fundus oculi was found to be very pale, but richly pigmented, and there were numerous fan- and flame-shaped hæmorrhages into the retina. Examination of the blood showed that the red blood-discs did not form *rouleaux* as in healthy blood, and that they were markedly diminished in number. Some of the cells seemed to be smaller (microcytes), others seemed to be larger (megalocytes) than the normal, while still others seemed to be contorted into a variety of shapes (poikilocytes). Most of the cells appeared to be well pigmented with hæmoglobin. There was no apparent increase in the number of white cells. The treatment consisted in the administration of arsenious oxide, and of oxygen by inhalation.

The following notes were taken of the case:

January 29th.—The patient had a profuse nose-bleed during the night.

30th.—Extremely pale. Is so weak that he can hardly hold a spoon. Subsultus tendinum. Tongue pale, dry, and glazed. Pulse very rapid (124), but of good strength apparently.

February 1st.—The patient has a sallow, bloodless look, and a listless, apathetic way. Is semi-delirious. Pulse feeble and intermittent—122 to the minute. Breathing labored. Tongue very dry and brown. Sordes collect on the teeth. Temperature higher for last two days.

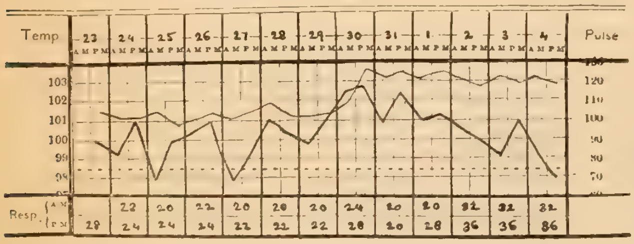
2d.—The patient's face has a cadaveric hue, and the skin of his body a waxy look. He is semi-comatose; can be aroused. He lies in the dorsal decubitus with his eyes half closed, breathing stertorously. Is so feeble that he can hardly move. Coughs a little. Tongue very dry and brown; a thick accumulation of dried-up secretions cover his teeth. Marked pulsation in the neck and scrobiculus cordis. Pulse rapid and somewhat feeble, 120; respirations rapid, 33; temperature, 101·2° F.

Later in the day he became extremely delirious; got out of bed and passed his fæces on the floor.

3d.—The patient is completely comatose. Respirations prolonged and noisy. Face blanched, eyelids half closed, eyes lusterless. Pulsation in jugulars well marked. Pulse feeble, 120; temperature, 99°.

4th.—Was delirious during the night. This morning he is again comatose. Pulse very rapid and feeble. The skin of the body has a greenish-yellow appearance.

From this condition of coma the patient did not emerge, but died on the evening of the 5th of February, 1886.



Autopsy.—Body emaciated; blood thin and watery; brain not examined; lungs: the left one was normal; there were œdema and commencing red hepatization of the lower lobe of the right lung; heart: the muscular tissue beneath the endocardium of the left ventricle was mottled with small yellow spots; the heart otherwise seemed normal; liver looked normal; spleen somewhat increased in size and firm; kidneys normal size; surface smooth; texture of the organ unusually smooth and densé; stomach and intestines were normal; sternum: the medulla of this bone looked normal to the naked eye.

Case V.—On the 14th of September, 1886, Edward M., a German cabinet-maker, aged thirty-nine, applied for admission to hospital, and, upon being questioned, made the following statements: For five or six months he had been troubled with dyspnœa upon exertion, a sense of languor and debility, and a feeling of dizziness when upright. Occasionally he was seized with cramp in the legs, and of late with attacks of cephalalgia. For two months his appetite had been failing, and fourteen days prior to his admission his legs and feet became swollen, at which time he was obliged to give up his work. About two years previously three of his fingers were cut off by machinery, but the hæmorrhage from the cut surfaces was not great. He had never, to his recollection, bled from mouth or gums, nor passed blood at stool; neither did he give a history of previous enteric complaint, nor of fever of malarial origin. He added that he had been pale as far back as he could remember.

Upon examining him, he was found to be rather poorly nourished. The color of his face was sallow, and there was some chloasma about the forehead. His mucous membranes were very anæmic, his tongue was clean, moist, and denuded of epithelium, and his extremities were cold and œdematous. The heart action was forcible, the sounds over the apex were booming in character. A soft systolic murmur was heard in the second intercostal space to the left of the sternum, which murmur was transmitted upward along the large arteries of the neck. The jugulars were large and pulsatile, and a venous hum was heard over them. The tension of the radial artery was high. The urine was amber-colored, acid, of a specific gravity of 1·015, and was free from sugar, albumin, and casts.

An ophthalmoscopic examination revealed the fundus oculi pale, the optic disc well defined and pearly white. The retinal vessels were narrow and pale. In the right eye a large and broad striated hæmorrhage was seen to the temporal side of the disc. In the left eye there was a smaller striated hæmorrhage, with a central yellowish spot, situated to the nasal side of the disc. In the lower half of the fundus a flame-shaped hæmorrhage and a few punctate ones were detected.

Upon pricking his finger to obtain a drop of blood, it was noticed that serum transuded through the puncture. The blood was very thin, watery, and pale. The red blood-cells were diminished in number, so that they came together in shapeless masses instead of forming *rouleaux;* and they were of different shapes, few appearing normal, some being very small, and some very large.

The treatment at first consisted in the administration of a mixture of dilute phosphoric acid, tincture of nux vomica, and syrup of the hypophosphites, and in addition he got Blaud's pills and inhalations of oxygen. But under this treatment he did not improve; he complained of great prostration, headache, dizziness, and loss of appetite. He had subjective sensations of cold, and his feet continued swollen and his hands puffy. His temperature rose as high as 100·4° F., and was of an irregular type.

September 24th.—Mixture discontinued. Ordered Thompson's solution of phosphorus and Fowler's solution of arsenic, gtt. iv in milk, four times a day.

By the 27th of September the patient was much worse. He had had an attack of vomiting and an epistaxis on the previous night. His skin was of a dirty lemon-color, he was very drowsy and stupid, and lay perfectly helpless in bed, with his arms crossed over his chest. He was with difficulty aroused, and he refused to take his medicine. His urine and fæces were passed involuntarily. Fresh hæmorrhages appeared in the retinæ. His pulse became very rapid and feeble, beating 120. His temperature fell below the normal—97·4° F.

On the 28th of September the notes of the case read that he was very delirious during the night; he crawled out of bed and passed his fæces on the floor. He seemed very low, and was failing rapidly. He lay in a semi-comatose condition, breathing heavily, 26 to the minute, pulse very feeble, beating 116, and his temperature fell to 97·6° F. There was marked pulsation in the neck, and the cardio-vascular signs were very distinct. The patient looked moribund.

On the next day there was no improvement in the patient's condition, but on the 30th of September, to everybody's surprise, he looked brighter and answered rationally the questions put to him. From that time on he steadily improved; he was allowed out of bed on the 11th of October; on the 17th of the same month the hæmic murmur, the venous hum, and the jugular pulsation had disappeared; and on the 20th of October he was discharged much improved.

It must be here stated that while the patient refused to take his medicine, the Fowler's solution was given daily disguised in milk.

On the 6th of November last I again saw this man, and he was then much improved in health; his mucous membranes were ruddy, and, except for loss of appetite, he said that he never felt better in his life. Upon examining his eyes, I found that the fundus had a red tint, and that all the hæmorrhages had disappeared without leaving a trace.

A CASE OF
PERICHONDRITIS OF THE LARYNX;
NECROSIS OF THE CRICOID.*

By C. H. KNIGHT, M. D.

Destruction of the cartilages of the larynx, resulting from inflammation of their perichondrium, is by no means uncommon. Numerous instances have been recorded of its occurrence as a sequel of typhoid fever, as a complication of tubercular laryngitis, associated with malignant disease of the larynx, and in the course of syphilis. The opportunity of studying the condition in a pathological specimen may perhaps lend additional interest to the following history:

W. S. M., aged seventy-three, single, cabinet-maker, came to the Northern Dispensary in February, 1886, suffering from dyspnœa and dysphonia, which he said began about three months previous and had been gradually increasing. The obstruction was obviously laryngeal and affected equally expiration and inspiration. The voice was remarkably low-pitched and raucous. There was occasional hoarse cough, with expectoration of thin purulent sputa, which showed streaks of blood after an unusually violent paroxysm of cough. The breath was extremely fœtid. There was no pain referable to the larynx, except during phonation or deglutition and after coughing, but the patient complained of sensitiveness under external pressure, and when the larynx was moved from side to side. There was no apparent thickening, swelling, or œdema over the region of the larynx. The cervical glands were not enlarged. Examination with the laryngoscope showed a diffuse, symmetrical œdematous swelling of the posterior wall of the larynx, the natural contour of the arytenoids being entirely effaced. Only a small portion of the anterior extremities of the vocal cords was visible. They seemed to be normal. The epiglottis was congested and somewhat swollen. Oozing into the cavity of the larynx from its posterior wall appeared a small quantity of thin, white secretion. It was impossible to keep the laryngeal mirror in position more than a few seconds on account of the necessity of clearing the larynx. No ulceration could be seen, and the source of the secretion could not be precisely determined. Owing to the patient's condition, no attempt was made to probe the larynx or to carry on a more extended examination.

The general condition of the patient was extremely bad. He was very weak and much emaciated, having been able to take little or no solid food for three or four weeks. He had received no treatment whatever, except a series of cough mixtures, which, of course, gave him no relief. Stimulants and soft food were ordered, and the patient was directed to use every two hours a steam inhalation of compound tincture of benzoin. He was not seen again for four days, when he reported in a very much improved condition. Still the tumefaction over the arytenoids prevented a complete view of the cords. The amount of secretion in the larynx seemed to be less; its character was unchanged. Breathing was much easier, but the dysphagia was only little, if at all, diminished. Again the patient disappeared and was not seen for a week, when he returned in a very much worse condition than when he first applied for relief. His breathing was excessively labored and he was in a state of extreme exhaustion. He was at once ordered to the hospital, where it was my intention to perform tracheotomy, if necessary. Instead of following my instructions, he went to his home. The following morning he rose from his bed to light his fire, fell on the floor, and died, before a friend, who occupied the room with him, could reach him. According to the best information obtainable, death seems to have occurred quietly, without struggle or sign of suffocation, apparently from asthenia.

The autopsy was made, with the assistance of Dr. Henriques, fourteen hours after death. The larynx, pharynx, and œsophagus were first removed intact. On section of the trachea, a small quantity of bloody pus was found on the mucous surface as far down as the bifurcation. The lungs showed numerous emphysematous areas and old pleuritic adhesions, but otherwise were normal. No trace of tubercular deposit was found and no syphilitic lesion could be discovered. The heart appeared to be normal; the pericardial sac contained about two drachms of perfectly clear serum. The specimen itself, which has been most carefully examined by Dr. Ferguson, of New York, consists of the pharynx, larynx, and upper portions of the œsophagus and trachea. On the anterior wall of the laryngo-pharynx is an ulcer exposing the entire thickness of the partially ossified cricoid cartilage. It does not communicate with the larynx or trachea. Its edges are undermined to the extent of half an inch along the posterior surface of the cartilage. An ulcer involving the mucosa and the muscular tissue occupies the posterior wall of the pharynx at the level of the cricoid. The edges of both ulcers are elevated and very much thickened. There are superficial erosions of the vocal cords. There are numerous miliary masses on the mucous surface of the trachea composed of round and oval cells, granular detritus, bacteria, and micrococci. Numerous sections through the tissues surrounding the pharyngeal ulcers fail to discover tubercle bacilli or evidence of tumor development. Collections of small round cells are found, limiting small areas of degeneration, which give the appearance of tubercles. There are no giant cells. The fibrous tissue between the muscular bundles in the wall of the pharynx near the ulcers is increased and contains many groups of small round and spindle-form cells. Sections through the mucous membrane of the trachea show similar cells, and the stroma of the mucous glands is infiltrated with similar small round elements.

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* Read before the American Laryngological Association at its eighth annual congress.

So much has been written on the subject of laryngeal perichondritis that it is not worth while to detain you with an extended review. The exhaustive article by von Ziemssen in his "Cyclopædia" (vol. ii, 814), where numerous valuable references may be found, and contributions by Türck, Mackenzie, Schroetter, Retslag, and others thoroughly cover the ground. Perhaps the most important questions relate to diagnosis, and, secondarily, to prognosis. In many cases the laryngeal condition may escape the notice it deserves, since the constitutional disease provoking it or associated with it demands the larger share of attention. The prognosis must be considered grave, if not necessarily fatal, especially when the cricoid cartilage is involved. A case has been reported by Ruehle in which this cartilage became necrotic and was discharged entire. Cohen narrates an interesting case of chondritis of the cricoid in which he did tracheotomy, and opened several intra-laryngeal abscesses. There was apparent reproduction of the cartilage, "the original one remaining necrosed in the cricoidal portion of the interior of the larynx as a foreign body" ("Diseases of the Throat and Nasal Passages," p. 526; also, "Trans. of the Path. Soc. of Phila.," 1874, p. 148). The degree of deformity and consequent impairment of function depend upon what and how many cartilages may be involved. The difficulty of determining this point is often insurmountable. A thorough examination may be impracticable, owing to intolerance of the parts, or to the general condition of the patient; or, in case a laryngeal exploration is possible, the region may be so obscured and distorted by inflammatory thickening, ulceration, or œdema, that the usual landmarks can not be identified.

The question of ætiology is of scarcely less interest and importance. Necrosis of laryngeal cartilages following typhoid fever has been especially observed by Trousseau, Rokitansky, and Sestier. Liebermeister maintains that in these cases the affection of the cartilage is not primary, but is due to extension of ulceration from the mucous membrane. On the other hand, Sestier asserts that it may occur without ulceration, and the latter view is corroborated by Greenfield. Tuberculosis, carcinoma, and syphilis have also been mentioned as prominent causes of laryngeal perichondritis. To these must be added variola and traumatism. Under the latter head should be included not only external violence, but also the injudicious use of œsophageal bougies, especially in the aged. In this connection I may refer briefly to a case not yet reported which occurred in the service of Dr. Asch, at the Manhattan Eye and Ear Hospital:

A woman, about forty years old, swallowed a plate of false teeth during an epileptic fit. The plate was dislodged from the pharynx with great difficulty. A few weeks later the woman came to the hospital with an abscess on the posterior wall of the larynx, which Dr. Asch opened. Subsequently the house surgeon did tracheotomy during an attack of acute œdema or spasm of the larynx. The patient recovered, with great deformity of the larynx and complete loss of voice.

Unfortunately, we have not had the opportunity to examine her recently, so that I am unable to describe her present condition. There is no doubt in my own mind that this was a case of traumatic perichondritis. Forcible and prolonged use of the voice, as in certain occupations, has been suggested as a cause by Flormann.* Primary laryngeal chondritis, resulting from early ossification of the cartilage, may involve the perichondrium (Albers), and, finally, pressure of an ossified cricoid cartilage against the vertebral column may develop a traumatic perichondritis (Dittrich). In some cases it may be very difficult to discover the origin of the lesion, as in one reported by Hall ("Trans. of the Clin. Soc. of London," 1882, xv, 195; 1884, xvii, 151). His patient died after the lapse of two years or more, and at the autopsy various lesions characteristic of syphilis were found. The conclusion was therefore adopted that syphilis had caused the necrotic changes in the larynx, which in the first instance had been attributed to a laryngitis accompanying an extensive bronchitis, no history and no signs of constitutional disease having been at that time discovered. In searching for the cause of the condition in the case which I have reported, it was learned that about one year ago the patient was violently seized by the throat in the course of an altercation and was nearly strangled. The immediate consequences of this incident were laryngeal pain and partial loss of voice, lasting nearly a week. No other trouble followed, except slight cough, which was supposed to be bronchial, until three months before the case came under my observation, when dyspnœa supervened, attended by marked change in the quality of the voice, and great pain and difficulty in swallowing. The patient had never had a serious illness since childhood, and positively denied syphilitic infection. He had never used liquor to excess; but it was found that his circumstances in life were such as to deprive him of proper nourishment, often for a very long period. It is quite evident that impairment of vitality due to this fact, combined with his extreme age and the condition of ossification of the cartilage, must have predisposed the patient to the development of the affection. It would seem, therefore, that traumatism may be regarded as the immediate cause of the laryngeal lesion. The unusual site and extent of the ulceration, and the absence of pulmonary tuberculosis and of tubercle bacilli in the sections examined microscopically, exclude the idea of tubercular laryngitis.

20 West Thirty-first Street.

ANEURYSM OF THE TRANSVERSE PORTION OF THE THORACIC AORTA,

ASSOCIATED WITH ORGANIC DISEASE OF THE HEART,

GREATLY RELIEVED BY IODIDE OF POTASSIUM.*

By W. H. KATZENBACH, M. D.

R. E., aged forty-three, native of the United States, bartender, consulted me October 12, 1886, at the Out-door Department of Bellevue Hospital. His father died at forty-three, a brother at twenty-three, and four sisters at twenty, twenty-one, thirty, and forty, respectively, of consumption; his mother, at forty-six, of general debility. The patient had fever and ague, twenty-five or twenty-six years ago, while living in Brooklyn. Twenty years ago he had an attack of acute inflammatory rheumatism, which lasted three or four months; another attack, milder, three or four years ago; and a third, slight attack, in the summer of 1885. He has had three or four attacks of gonorrhœa, but denies syphilis. His habits have always been temperate.

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* Read before the New York Clinical Society, November 26, 1886.

His present disease began two years ago with pain about the heart, and in the left arm all the way down to the hand. It came on suddenly at night, waking him out of sound sleep. It was called an attack of indigestion, and was relieved for a week or ten days, when it returned with less severity, but it has persisted up to the present time with intermissions. One year ago he began to experience shortness of breath on hurrying, or on going upstairs. Four months ago the pain became so severe that he was obliged to give up work. He locates the pain on the left side of the sternum, at about the level of the second rib. It is aching in character, sometimes sharp, shifting to the left, and shooting through to the shoulder-blades. It is worse in the day, but has been relieved some by hot flannels. The electric battery was used, but it increased the pain, and caused palpitation of the heart. About a week ago he began to have "choking in the throat" when he swallowed, "as though there were something in the way." He was told there was "a hole in the left lung." He has lost considerable flesh; his appetite is poor; bowels regular. He has slept very little in the last month on account of pain and a feeling of nervousness and restlessness. He has had no cough nor hæmoptysis.

Physical Signs.—There is a slight bulging of the chest-wall at the left edge of the sternum, near the second rib. There is pulsation of this region, best appreciated by the hand. There is no thrill. The area of dullness is between two and three inches in diameter. Over this a well-marked systolic bruit conveyed upward toward the clavicle.

The heart apex is in the sixth interspace, nearly an inch to the left of the nipple line. The impulse is weak and diffused. The first sound is heard with the greatest intensity under the nipple, and accompanying it a soft murmur conveyed some distance to the left, and quite distinct at angle of scapula. A soft systolic murmur is also heard over the aortic orifice and in the right carotid. There is no appreciable difference in the carotid and radial pulses of the two sides. The hands are cyanotic. The voice is clear. The respiration is harsh under the left clavicle. The respiratory murmur is good over the rest of the lungs, though rather feeble. There is no difference in intensity on the two sides. No stridor. The pupils are equal, and respond alike. The liver and spleen are not enlarged. Urine not examined.

Treatment was begun at once with iodide of potassium, ten grains three times a day after meals, well diluted. It was soon increased to fifteen grains, and for the past three weeks the dose has been twenty grains. No other remedies have been employed. On November 22d the area of dullness had diminished, and the pulsation was weaker. His symptoms have steadily improved. He has very little pain; sleeps well. His appetite is very good, and the difficulty in deglutition "is mostly gone." Has been tending bar for the last four weeks from 6 A. M. till 6.30 P. M. He still suffers with dyspnœa.

The prognosis in this case is not easy. Although he has experienced great relief from treatment, in one of his occupation the occurrence of aneurysm spontaneously—that is, not following strain or violent emotion or excitement—would indicate considerable degenerative disease of the arterial coats. The presence of mitral insufficiency and aortic obstruction diminishing the amount of blood-pressure in the aorta may be a conservative element in his case, retarding the growth of the tumor.

The action of the iodide in internal aneurysms, as explained by Balfour, I think is pretty generally accepted. It diminishes cardiac force, lowers arterial tension, and, by some peculiar action on the fibrous tissue, the contraction of the sac is aided, and its walls are strengthened and condensed.

It should be administered in as full doses as are borne by the stomach, and long after the symptoms have been relieved and the tumor hardens.

About two weeks ago Mr. E. began to have rush of blood to the left side of the head, accompanied with a sense of fullness. During these attacks, which occur several times a day and last fifteen or twenty seconds, the veins of the left side of the neck become swollen and prominent. I have not seen any of these phenomena, and only record them as described by himself.

November 26th.—This evening the bulging of the chest-wall is hardly perceptible. The pulsation is very much diminished. The area of dullness is about one inch and a half in diameter. There is no thrill. The bruit is of the same intensity as when he was first examined. The pressure symptoms have now entirely disappeared.

A CASE OF DIFFICULT VERSION.

By WILLIAM T. LUSK, M. D.

I was recently called at midnight to the Emergency Hospital, to a case of shoulder presentation, the patient having been sent to the hospital twelve hours after the complete prolapse of the arm into the vagina. On my arrival, the head was outside the vulva, the arm greatly swollen, and the shoulder so wedged into the pelvis that the introduction of the hand into the uterus, to accomplish version, was rendered impossible. In this dilemma I recalled a paper by Dr. F. P. Foster, published in the ninth volume of the "American Journal of Obstetrics," "On Prolapse of the Arm in Transverse Presentations," in which the author gave the history of a case in which he had succeeded in elevating the cephalic pole by seizing the arm and pushing gently upward in the direction of the os brachii, so that with the index-finger alone in the cervix he managed to reach the breech of the child.

In my case the head was to the right, the belly to the front, and the right arm presenting. Owing to the protracted course of the labor, the uterus was firmly retracted. However, after anæsthetizing the patient, I succeeded, by persistent efforts, in replacing the arm in the uterus by Dr. Foster's manœuvre, thus rendering it possible to introduce the hand into the uterine cavity and bring down a foot. Without the hint derived from Dr. Foster's paper, I should have been obliged to resort to embryotomy. I report the result briefly to prevent a most serviceable plan of treatment from being forgotten.

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MAJOR GYNÆCOLOGY IN LIVERPOOL.

SEVERAL weeks ago, we alluded to a lawsuit that had been brought against one of the surgeons of the Liverpool Hospital for Women, in which the husband of a woman who had undergone the operation of removal of the uterine appendages sought to recover damages, the ground of his complaint being that the physiological effects of the operation had not been duly set forth by the surgeon beforehand. The progress of the suit, together with the comments made in the London medical journals by various correspondents, revealed not only a lamentable state of discord among the members of the staff of the hospital in question as to the soundness of the practice followed by one of their number in cases more or less classifiable with the one under inquiry, but also a feeling of partisanship, both on their part and that of other members of the profession, that seemed to stand in the way of a fair and judicial consideration of the questions really at issue. This state of things has culminated in a formal inquiry into the character of the surgical work recently done in the hospital, by a committee appointed for the purpose. The committee has made its report, but we are not sure that matters are likely to be materially mended by it. We are not acquainted with the committee's constitution, nor have we seen the full text of the report, being obliged to rely for the purport of the latter on a summary of the points, given editorially in a recent issue of the "British Medical Journal."

The report relates specifically to four different operations: ordinary ovariotomy, exploratory laparotomy, oophorrhaphy, and removal of the ovaries and oviducts. Concerning ordinary ovariotomy, the committee simply say that its expediency is now universally recognized. As to exploratory laparotomy, they think that in the few instances of that operation that have occurred in the hospital it was justifiable. In regard to oophorrhaphy (the operation of replacing a prolapsed ovary in its proper situation, and endeavoring to secure its retention there by means of suturing), the committee say that experience is not yet sufficient to enable them to express any strong opinion either for or against it, but they remark that "the uncertainty as to whether the ovaries will retain the position in which they are fixed, together with the danger attached to all abdominal sections," constitutes a serious objection to the frequent use of the procedure. In the matter of Tait's operation (removal of the ovaries and oviducts), it appears that it has been done in the hospital in one hundred and six cases, and that nine of the patients have died, giving a mortality of between eight and nine per cent. The committee admit that it "enters into the category of legitimate and justifiable surgical proceedings," but conclude that, if it is done for comparatively trivial affections, or for conditions which might be remedied in a reasonable time without resorting to operation, and if the results are afterward found to be far from certain as regards cure, a mortality of eight or nine per cent. is a serious objection to its being done under those circumstances.

Although some of the committee's opinions have about them a flavor of Jack Bunsby, it must certainly be confessed that they lean in the direction of conservatism. In reality, it makes little difference, except for one particular hospital, what such a committee may think best to say, for with the profession at large an official opinion has no more force than one emanating from the official body's strongest member. The report touches upon the broader question of the expediency of resorting to laparotomy at all in a special hospital, except for affections falling within the strict limits of the specialty, but no more light seems to have been shed on this point than on the other matters discussed.

MINOR PARAGRAPHS.

DOCTORS AND POLITICS.

A CORRESPONDENT of one of the daily papers, who signs himself "Doctor," calls attention to a number of instances in which officials who have made appointments, and done other acts, distasteful to medical men have failed of re-election, or have in some equally pointed way been made to understand that they had lost popularity. Although it is not pretended that these things have come to pass as the result of any concerted action on the part of physicians, the intimation is plain that their resentment had something to do with the sequence of events, and that that resentment was displayed in quite a proper way. While it is unquestionably true that medical men are ordinarily too neglectful of their political duties, it seems to us that, when they do take action, they should base it on broader grounds than class pique.

A PHARMACEUTICAL TERM OF REPROACH.

OUR readers are all doubtless informed as to the brilliant war of words that once took place between a Billingsgate fishwoman and a scholar, in which the latter made use of mathematical terms that his adversary could not match. Not precisely in the same line, but evidently quite effective, was an expression of disgust lately applied by a woman to a Paris policeman, "*Tu me fais l'effêt d'une pilule!*" This pharmaceutical abuse was more than the policeman could endure, and the woman was brought before one of the police courts, where, according to a Paris dispatch to the London "Daily Telegraph," she was acquitted on the ground that there were a thousand kinds of pills, the effects of which were of the most varied character, but she had not mentioned any particular kind. "So we may infer," the account continues, "that, had Ernestine Roussel compared her enemy to a blue pill, for instance, she would have been treated with more rigor."

ITEMS, ETC.

M. Pasteur's Wolf-bitten Patients.—An esteemed correspondent writing from St. Louis calls our attention to an error in the calculation of a percentage in Dr. Mott's article, "Rabies, and How to Prevent it," the concluding portion of which was published in the "Journal" for October 30, 1886. The last paragraph of the second column of page 490 concludes: "Ordinarily 66 per cent. of those bitten by rabid wolves die, and here the percentage is fourteen." The final clause should read *and here the percentage is but little more than eight.*

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 28, 1886:

DISEASES.	Week ending Dec. 21.		Week ending Dec. 28.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	11	9	17	5
Scarlet fever	31	4	34	6
Cerebro-spinal meningitis	5	4	6	6
Measles	569	64	518	64
Diphtheria	102	46	125	42

Cholera in South America.—Press dispatches by way of Galveston, dated December 23d, announce that the disease has ceased to exist at Montevideo, but that 86 deaths and 118 new cases were reported from Mendoza on the 22d.

Mount Sinai Hospital.—At the recent annual meeting of the patrons and members, it was shown that the institution was doing an increased amount of work, and that it was managed with strict economy, but that the increase of its resources during the year had been trifling. We trust that the appeal for more benefactions made in the report will be favorably considered by the community.

The Alumni Association of the Woman's Hospital in the State of New York will hold its third meeting at the New York Academy of Medicine on Wednesday, the 19th inst. The programme is as follows: *Morning Session, 9.30 to 1.*—"The Treatment of Vaginismus by a Plastic Operation," by Dr. E. C. Dudley, of Chicago; "Hydrastis Canadensis in Uterine Hæmorrhage," by Dr. Reynold W. Wilcox, of New York; "Vaginal Cysts, with Report of a Case," by Dr. George Woodruff Johnston, of Washington; "Artificial Impregnation as a Substitute for Removal of the Uterine Appendages in a certain Class of Cases," by Dr. A. H. Buckmaster, of Brooklyn. *Afternoon Session, 2 to 5.*—"The Influence of the Woman's Hospital," by Dr. James B. Hunter, of New York; "Vaginal Hysterectomy in America, with Report of a Case," by Dr. A. Palmer Dudley, of New York; "Post-graduate Instruction in Gynæcology," by Dr. Henry C. Coe, of New York; "Complete Laceration of the Perinæum involving the Sphincter Ani," by Dr. P. Flewellyn Chambers, of New York.

The College of Physicians of Philadelphia will hold its centennial celebration next Monday evening, the 3d inst. A commemorative address will be delivered at Association Hall at 7.30 P. M., and at 9 P. M. a reception will be held in the hall of the college.

A New Local Anæsthetic.—"Drumine," says the "Lancet," "is the title of a new Australian local anæsthetic discovered and described by Dr. John Reid, of Port Germain, South Australia. *Euphorbia Drummondii* is the species from the milky juice of which the alkaloid drumine was prepared. Cocaine is known to have a mixed action on sensory and motor nerves, and causes preliminary excitement; while drumine is said to have an almost purely sensory paralyzing effect, and does not cause excitement. Experiments were made on cats and on the observer's tongue. It was injected into the legs of the former animals and caused general dullness, with marked impairment apparently of all forms of sensibility. Placed on the tongue, nostrils, and hand of the observer, the resulting anæsthesia was most marked. The alkaloid has no action on the pupil, and small doses given internally produce no constitutional effect. It has been employed successfully in subcutaneous injections for sciatica and sprains. The experimentation has so far been imperfect and incomplete. We hope soon to have a fuller account of this new alkaloid, and to be able to give further information thereon. The amount injected subcutaneously was four minims of a four-per-cent. solution. Dr. Reid anticipates a brilliant future for the drug in the domain of nervous and cerebral diseases."

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the three weeks ended December 18, 1886:*

BANKS, C. E., Passed Assistant Surgeon. Granted leave of absence for twelve days. December 16, 1886.

CARRINGTON, P. M., Assistant Surgeon. Granted leave of absence for fifteen days. December 6, 1886.

WILLIAMS, L. L., Assistant Surgeon. Upon expiration of leave, to proceed to Boston, Mass., for duty. December 17, 1886.

Society Meetings for the Coming Week:

MONDAY, *January 3d:* New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *January 4th:* New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Broome (quarterly) and Niagara (semi annual—Lockport), N. Y.; Hudson County (Jersey City) and Union County (quarterly), N. J., Medical Societies; Androscoggin, Me., County Medical Association (annual—Lewiston); Chittenden, Vt., County Medical Society.

WEDNESDAY, *January 5th:* Harlem Medical Association of the City of New York; Medical Society of the County of Richmond, N. Y. (Stapleton); Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association; Philadelphia County Medical Society (regular).

THURSDAY, *January 6th:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Washington, Vt., County Medical Society (annual—Montpelier); Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

FRIDAY, *January 7th:* Practitioners' Society of New York (private).

SATURDAY, *January 8th:* Obstetrical Society of Boston (private); Worcester, Mass., North District Medical Society.

OBITUARY NOTES.

Thomas Arnold Hazard, M. D., of Kingston, R. I., who died on the 8th inst., was born in 1814, and received his medical degree from the University of Pennsylvania. He settled in Kingston, and for more than fifty years he was one of the leading physicians of that section of the State. Dr. Hazard was prominent in educational matters, and served as a school committeeman for over twenty years. He was a man of few words, but of a fine physique, a cheerful and dignified bearing, and ready wit.

William H. Carter, M. D., of Bradford, Vt., died recently from the effects of a fall. He was born in Newbury, Vt., May 28, 1801, received his early education at Bradford Academy, and was graduated from Dartmouth Medical College in 1824.

Henry Slack, M. D., of Fishkill-on-the-Hudson, died on Friday, December 10, 1886, in the fifty-sixth year of his age. Dr. Slack was a graduate of the Albany Medical College, of the class of 1852.

Letters to the Editor.

ARE SMALL-POX AND COW-POX ONE AND THE SAME DISEASE?

Boston, *December 20, 1886.*

To the Editor of the New York Medical Journal:

Sir: As you are pleased to call ("Journal," Dec. 11th) the results of experiments favoring this doctrine, especially those of Mr. Ceely, a "flimsy foundation," will you have the goodness to republish the account of similar experiments made by the late Dr. Horatio Adams, of Waltham, Mass.? He and his associates were certainly men worthy of all belief; you will recognize their names readily as those of trustworthy men fully capable of such work. Though the results have long been before the public, neither Mr. Fleming nor you allude to them.

In an annual discourse before the Massachusetts Medical Society, a society of sixteen hundred members ("Med. Com. of the Mass. Med. Soc.," ix, 4, 1858, p. 236), Dr. Adams says:

> "The fact is probably familiar to all that within the last twenty years it has been shown that the cow-pox can be produced by inoculating the cow with variolous matter. In the October number of the 'British and Foreign Med. Review' for 1839 may be found an account of Mr. Ceely's experiment of inoculating the cow. Soon after this, in conversation with a gentleman whom, in the words of another, I am privileged also to call my teacher, my physician, my friend, James Jackson, it was arranged that the writer should repeat Mr. Ceely's experiment as soon as pure small-pox matter for the purpose could be procured. A brief account of this experiment, the first, it is believed, that was ever performed in this country with successful results, may not be out of place here. On the 11th of January, 1840, I made several punctures with the point of a lancet under the cuticle on the right labium pudendi of two different cows; none of the punctures were sufficiently deep to draw blood. Into each of them was introduced a pointed quill well deluged with variolous matter, and allowed to remain for half an hour. On the 15th the punctures were barely visible, but not apparently inflamed. On the 16th two of the punctures made on the youngest cow were more distinctly visible; in drawing the finger over them a slight hardness was felt. None of the other punctures had inflamed. 17th.—These two punctures were more inflamed and a little raised, showing a pearly-white, flat top, rather small. 18th.—Punctures larger than yesterday, and each capped with a pearly-white, flat vesicle, with center depressed. 19th.—The punctures (now vesicles) are enlarged, centers depressed. 20th.—Each of the vesicles is nearly four lines in diameter; surface pearly-white, flat, with centers depressed, areola not formed, slight crust in center. This p. m., end of ninth day of disease, punctured one of the vesicles; found cuticle thick, spongy, and breaking, like what is seen when a vaccine vesicle is early punctured on the arm. Vesicle distinctly cellular. Transparent lymph oozed from the opening, with which I charged twenty quills. Cow appears perfectly well. 21st.—No material change. 22d.—Vesicle larger and more full, areola forming. Dipped several quills to-day; lymph pellucid. Drs. J. D. Fisher, C. G. Putnam, and Gregerson examined the case to-day. 23d.—Crust forming rapidly, areola somewhat increased in extent, three fourths of an inch in diameter, round and regular, and somewhat raised above the surrounding skin. Cow eats as usual. From this date disease rapidly subsided; a very dark crust was soon formed. On the 27th Drs. Fisher and Putnam brought me virus taken from a child vaccinated on the 21st instant with the matter taken from this cow. The vesicle, as they both affirmed, exhibited the characteristic marks of the true cow-pox on the sixth day of the disease. Many persons were subsequently vaccinated with matter taken from this cow, and in every instance the true vaccine disease was the result.
>
> "This discovery of the identity, or rather, I should say, this proof of the identity, of the vaccine and variolous diseases is the most important fact observed in relation to the cow-pox since the original discovery of Dr. Jenner. For, if any doubt should ever arise as to the genuineness of the virus in use, or if it should at any time be lost, as it frequently may be in certain localities, and small-pox make its appearance, it can be reproduced with certainty by inoculating the cow with small-pox virus."

These experiments were "made openly," as the present writer can attest, and were completely successful. If others have failed, that should not invalidate such results—the animals may have been insusceptible (as many human beings are), or may have had the disease previously. The subject seems worthy of further trials by disinterested experimenters who can command the opportunities which, say, the institutions of New York amply afford.

....

M. M. M. S.

⁂ On a future occasion we shall attempt to point out the distinction that should be made between matters of fact and questions of interpretation in the accounts handed down to us by Mr. Ceely, Dr. Adams, and others. At present we will simply say that, so far as we are aware, those gentlemen's veracity has never been seriously called in question.

TALIPES CALCANEUS.

Keene, N. H., *December 13, 1886.*

To the Editor of the New York Medical Journal:

Sir: The communication of Dr. Churchill, in your issue of December 11th, calls to mind a case that occurred in my own practice. On the evening of September 26, 1885, I was called to attend in confinement Mrs. P., a primipara. After a very short and easy labor, she was delivered of a boy, who, with the exception of club-feet, was strong and well developed. Both feet were drawn up so that the nails were nearly in contact with the surface of the leg. The limbs were well developed and of equal size. The feet could be brought down into the natural position with ease, which showed that the deformity was caused by paralysis of the muscles on the posterior portion of the leg, the gastrocnemius and soleus, and not by abnormal contraction of those on the anterior part, as was the case with Dr. Churchill's patient. I directed the nurse to rub or shampoo the muscles on the back of the legs often with her hand, giving her a liniment to apply, as many persons can not be made to understand that there is any virtue in simple rubbing. She was to hold the feet in their natural position as much as possible. My directions were carried out faithfully. It was my intention to use the constant current after a few days, but, as improvement began by the time the child was a week old, I did not apply it. When the child was eight weeks old, both feet were in a normal position, with no symptom of the previous deformity; when it began to walk, which it did at fourteen months, the muscles seemed as strong, and obeyed the will as well, as if none of them had ever been paralyzed.

The treatment of congenital talipes, whether of the calcaneal variety or not, should be begun at birth. If it is put off, fatty degeneration of the muscles will take place, the bones will change their articulating surfaces, and a cure will be out of the question, even if the knife is used. In this, as in many other conditions, delay is dangerous.

Respectfully,

Ira J. Prouty, M. D.

Proceedings of Societies.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of December 7, 1886.

The President, Dr. C. L. Dana, in the Chair.

A Case of Progressive Muscular Atrophy, with Bulbar Symptoms.—Dr. W. R. Birdsall presented a patient, and read the history of a case of progressive muscular atrophy, with bulbar symptoms; the atrophy limited to the left upper extremity, the abductor indicis of the right hand, and the tongue, the latter affected bilaterally (predominantly on the left side). He presented the case as illustrating the non-conformity of disease to our arbitrary standards of classification and description of types. The patient showed peculiarities due to the pathological process having advanced to an extreme degree in certain regions, while its distribution had remained limited, not involving neighboring parts usually affected; the left upper extremity and tongue were the parts involved, and to a marked degree, while the right upper extremity was normal, excepting the abductor indicis; the trunk and lower extremities remained healthy. A detailed history of the case was given, the patient being a carpenter, a Swede, aged thirty-nine, married, of temperate habits, without a history of syphilis or other disease. A chart was presented showing the electrical reactions.

Self-abuse in its Relation to Insanity.—Dr. E. C. Spitzka read a paper in which, after citing the views of the classical writers, he stated that the question of the existence of a special form of insanity due to self-abuse and to nothing else was complicated by the existence of another well-defined affection known as the insanity of pubescence. The mental diseases due to self-abuse usually occurred at the same period of life as the latter disorder. This fact explained the similarity of many of their clinical features. The question was further complicated by the fact that hebephreniacs (sufferers from pubescent insanity) were often addicted to self-abuse, and that thus the features of one disorder might be ingrafted upon the other.

The Continental authorities did not recognize a special form of masturbational insanity in their tables. Schüle, it was true, spoke of *onanistic insanity* in the sense in which Maudsley used that term; but he assigned no part to it in his classification, and disposed of it in a few lines. Krafft-Ebig recognized the vice as an ætiological factor, and spoke of such and such forms of insanity on a masturbational basis. He, as well as Schüle, with the majority of recent German writers, followed Ellinger in attributing to the *masturbatory neurosis* a relation to the development of insanity analogous to heredity and other admitted predisposing and determining factors. The author had yet to find any dissent expressed by these authorities from the position taken by Emminghaus, who maintained that, owing to its causal relationship to widely differing forms of insanity, it was not proper to speak, as Skae did, of a special form due to masturbation. This critical remark would seem to be supported not only by the clinical facts accessible to every observer, but also by the confusion existing among those writers who had attempted to define such an affection. Skae spoke of a peculiar imbecility and shy habits as characterizing the disorder among the youthful, and suspicion, fear, scared looks, palpitation, and feeble bodies, as found in older victims, who gradually passed into dementia. The most distinguished disciple of Skae's attributed the following symptoms to that form of insanity of which masturbation was the chief cause and "the chief symptom present," giving "the whole case distinct features": exaggerated self-feeling; conceited, shallow introspection; frothy, emotional religious notions; and a restless, unsettled state, with foolish batchings of philanthropic schemes. Luther Bell, who, with Isaac Ray, had been among the earliest to attribute special symptoms to insanity caused by masturbation, had furnished a very faithful picture of certain cases, the particular feature of which he described as being a tendency to dementia, a loss of self-respect, a sulky, mischievous, and dangerous disposition, and a subjectively irritable and depressed state of mind. Griesinger, who did not recognize a special form and denied specific characters, admitted that the majority of cases were marked by a profound dullness of sentiment and mental exhaustion, by religious delusions and hallucinations of hearing, and a rapid transition to dementia in the event of incurability, which latter was the usual issue.

The effect of masturbation on the mind and nervous system varied according to the age at which it was commenced. Like other agents which were injurious to the developing brain, such as epilepsy, alcohol, and syphilis, its effect was most rapid and serious in young children, less so in adolescents, and least marked in adults, unless protracted. In very young infants it caused a profound deterioration, manifesting itself in convulsive, choreic disorder, and imbecility. In those who masturbated between the fifth and tenth years the effects seemed to be manifested chiefly in arrested brain nutrition. Spontaneity of thought and action was absent with such children; they did not play as their comrades did. There were a number of other circumstances which modified the development of mental disturbance in masturbators. The age between twenty and thirty-five was pre-eminently the period of somatic introspection. It was at this period, if at any, that the average man began to think about his bodily condition. In these years men weighed themselves, discovered that they had too much or too little flesh, became affected with slight gastric or intestinal disorders, with reflex nervous symptoms, or indulged to excess in tobacco, in drink, and in venery, and consequently were on the *qui vive* for the occurrence of cardiac, renal, or venereal disease, or of sexual disability. It was at this period that the results of masturbation were most deeply felt by a large proportion of the victims of that habit. The prevalent tendency of their age and of their associates of the same age carried them into a veritable nosomania. Perhaps also they attempted, under lay or medical advice, to accomplish coitus and failed. It was for this reason that we found the larger portion of cases of insanity due to masturbation developing between the twenty-fifth and thirty-fifth years, classified as "hypochondriacal paranoia."

A number of typical histories were then related, from which the author drew the following conclusions: 1. Self-abuse was an ætiological factor in a large number of cases of insanity, but only those cases should be designated as insanity of masturbation in which the connection between the excesses and the symptoms was direct. 2. Self-abuse, to produce insanity, must have been carried very far, or the subject must be predisposed. Often onanism could be traced in other members of the family, and very often it was found that the maternal ancestry was a weak one. 3. Mania, melancholia, and epilepsy occasionally occurred in young masturbators, the former two usually having a favorable prognosis. 4. Stuporous insanity and katatonia were both common, and the former presented good prospects. 5. The forms thus far mentioned, when occurring in masturbators, presented no essential difference from the typical psychoses. They should, therefore, be designated as mania, melancholia, stupor, etc., *from* masturbation, and not as masturbational insanity. 6. There was a chronic delusional insanity in grown persons who had been devotees of self-abuse, and it was usually a hypochondriacal *paranoia*. Clinically it was very like typical paranoia, and ætiologically it was not the direct result of self-abuse, but rather of an intermediate neurosis, a cerebro-spinal irritation which was due to self-abuse. 7. Finally, there was a form of insanity developing about or after the period of puberty which did merit the name "masturbational insanity." It was chronic, had a tendency to agitated dementia, and was characterized in its early period by anxiety, timidity, suspicion, fear, and a cowardly, mean disposition. Subsequently there were confusion, meddlesome, aggressive behavior, vague delusions, loss of memory, and, finally, deterioration. After these were observed spells of fury or destructiveness. This form was never due to any other cause, and resembled no other form of insanity than the one already alluded to. 8. It was not always possible to distinguish between the insanity of pubescence and the form described. But, where the former disorder was uncomplicated by the latter, it might be known by a history of peculiarities in infancy and childhood, and by the greater constancy of the mental state, which in onanists was exceedingly variable. Hebephreniacs were more apt to be expansive in their notions, more inclined to favor projects of a chimerical character. In other words, insanity of pubescence was the paranoia of adolescence, and masturbational insanity the pre-senile dementia of the same period of life.

Dr. Ralph L. Parsons made some remarks with reference to the treatment. The diet should be principally of vegetables and milk, with little meat and stimulating condiments. As the patient sought solitude, he should be thrown as much as possible with others, not alone of his own sex, but also of those of the opposite sex. He should be kept occupied, and manual labor of some form, like farming, was best. He knew of no special benefit to be derived from medicinal treatment, as with the bromides, or with the application of irritating substances to the penis. Cutting off the prepuce might be of advantage in some cases. The patient should be closely watched day and night. Mechanical appliances might sometimes be necessary, and moral influence could be depended upon to a certain extent.

Dr. Kellogg agreed with the author in the main in the conclusions arrived at, but he would like to know Dr. Spitzka's views as to the relative importance of artificial sexual indulgence and indulgence in the natural manner as factors in the production of insanity. Masturbation was a wide term, and ought to be defined. The effects in some cases were more observable in spinal lesions, in others in cerebral lesions. He believed that masturbation itself was not capable of producing insanity in a person of sound heritage. He was convinced that it was capable of suspending mental growth, and producing forms of imbecility in those of sound parentage. He knew it could produce insanity at the time of pubescence, and there were persons of mature age who had a predisposition to insanity in whom the attack was excited directly by sexual excess. Occasionally persons indulged to excess for a year or two only, as sailors sometimes did when on long voyages. Masturbation was also capable of producing insanity in old persons who were on the decline; it hastened dementia. He did not think there was a peculiar set of symptoms; the age of the patient, his education, his heritage, his whole mental make-up, influenced the symptoms more than the exciting cause. He did not believe it possible to separate masturbation from other forms of sexual excess, and the title "sexual abuse" would have been more appropriate because more comprehensive than self-abuse.

Dr. Noyes said the case referred to by the author as having been cured was the only one in the Bloomingdale Asylum in which a cure had been effected, and he attributed recovery in that case to transferring the patient to a farm, where his whole mode of life, including diet, was changed, and for the better.

Dr. L. C. Gray thought the author had given an accurate description of the mental disturbances often seen associated with the habit of masturbation, but he asked if he did not also find similar mental disturbances in individuals who were not masturbators.

Dr. Spitzka replied that in individual cases he had, but not in groups of cases as occurred in masturbators.

Dr. Gray had seen the mental disturbances described in patients addicted to masturbation, but he had been unable to decide as to how far masturbation could be considered as a cause or simply an associated habit. He had two cases in mind in which that group of symptoms was followed in the course of a few weeks by masturbation in individuals who had not previously been addicted to self-abuse. He had seen the same symptoms follow excessive sexual intercourse. He had in some cases noticed a very exaggerated and extensive cremaster reflex.

In closing the discussion, Dr. Spitzka said that there were undoubtedly some forms of sexual vice which were physically as injurious as onanism. But he had not seen a sufficient number of cases to enable him to say anything about their mental sequelæ unless he cared to risk being premature. He had known epilepsy and stupor to follow sexual excess in the natural manner in a young person, and paretic dementia in more than one cunnilinguist and sodomist. The form he had sketched was, so far as his experience went, only found in masturbators. While he admitted with Dr. Kellogg that the single act of onanism was physically not a formal thing, and not much if at all different from normal coitus, there were two respects in which the onanist and libertine differed most widely; one was a moral, the other a physical, feature. The onanist practiced a secret crime; the social and gregarious element was excluded. Knowing that his act was despised, he became inclined to suspicion and fear of discovery. A libertine could not exceed beyond a certain limit. Coitus required a condition of the organs which implied the existence of certain normal energies. When these failed, the limit was set to further excess. With the onanist it was much different. There were masturbators who required no erection; yea, who succeeded in their injurious act without any manipulation. The consequence was that they passed far beyond the limit set by nature to excess in the natural way, and no calculation could be made of the damage done. Dr. Parsons's dietary propositions were indorsed by the highest authorities. Individually, the speaker was not decided whether or not a highly nutritious diet would prove injurious in certain phases.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of November 24, 1886.

The President, Dr. John A. Wyeth, in the Chair.

Miliary Aneurysms of the Brain.—Dr. R. Van Santvoord presented microscopical slides showing miliary aneurysms in a brain in which there were six or seven cortical hæmorrhages.

Cardiac Lesions.—Dr. Van Santvoord presented the heart of a woman who had died, aged fifty-five years. Her predominant symptom during the two weeks she was in the hospital had been great feebleness of the heart. At the autopsy lesions were found in several organs of the body, including pulmonary phthisis and œdema, and chronic diffuse nephritis. The lesions to which he called particular attention were slight hypertrophy of the left ventricle with dilatation, advanced calcification in the aortic valves, and fatty heart. The case went to support the conclusion arrived at from experiments made by Dr. W. H. Welch, namely, that marked weakness of the left ventricle was frequently accompanied by œdema of the lungs.

Aortic Regurgitation (from Rupture of a Valve?); Pericarditis.—Dr. Van Santvoord presented a specimen from the body of a man who had been an inmate of a lunatic asylum for nine years. He had been a driver of a brewery wagon. He had an acute nephritis, which became complicated with pericarditis, resulting in death. A typical double aortic murmur had been heard; there was also a systolic murmur at the apex not transmitted to the left. A cardiac functional murmur was heard four days before death. At the autopsy there were found slight thickening of the arachnoid and anæmia of the brain. The lungs were very œdematous; there was slight pleuritic effusion; the liver was cirrhotic and fatty, and showed congestive changes; the spleen was of double its normal size, and firm; the kidneys were œdematous, the cortex being mottled yellow; there were congestion and thickening of the mucous membrane of the stomach and intestines. The pericardium contained two ounces of fluid, and both layers were coated with yellow lymph. The left ventricle was considerably dilated and hypertrophied. Two leaflets of the aortic valve were only slightly thickened. The third, corresponding to the right coronary artery, had a notch at one side of the corpus Arantii. From one side of the notch three fibrous vegetations projected, and from the other side one about an inch long. The mitral orifice admitted the ends of three fingers. The valves looked normal. The aorta showed extensive atheroma. The speaker thought, from the fact that two of the leaflets were only slightly thickened, and from the notch-shaped lesion and limitation of the fibrinous outgrowth to the edges of this notch, that it was probable the lesion had been caused by a rupture of the valve. It seemed plausible to suppose that the additional strain thrown on the aorta by the cardiac systole, which was unusually strong from compensatory development of the left ventricle, had been a factor of importance in increasing the atheroma of the aorta; the valves being subjected to a subnormal strain owing to regurgitation, did not share in this factor, hence presumably the unusual disproportion between the general disease of the valves and that of the aorta. Sphygmographic tracings of the pulse were shown, and compared with those taken in another case.

A Slough from the Uterus.—Dr. H. J. Boldt presented a slough which had come away after the use of chloride-of-zinc cotton in the uterine cavity following curetting in a case of carcinoma. It was interesting chiefly on account of its great thickness.

Acute Gastro-enteritis; Ulceration of the Gall Bladder.—Dr. L. Emmett Holt presented several medium-sized gall stones removed from the body of a man who had died at the age of forty-five years, having given a history of attacks of biliary colic with jaundice. Some days before death he had a chill; the temperature rose, and remained elevated until death. There was a history of previous malarial poisoning, which rendered the diagnosis obscure. The liver was found intensely jaundiced and slightly fatty. There was recent parenchymatous nephritis. The stomach, the duodenum, and two or three feet of the jejunum showed marked acute inflammation. The hepatic and common bile ducts were pervious. The jaundice appeared to have been due to swelling of the mucous membrane at the opening of the common duct into the duodenum. The gall stones had ulcerated through the gall bladder and become encysted in an abscess which had formed on the lower surface of the liver. Death had resulted from blood poisoning arising from this abscess.

Dr. Van Santvoord had seen a case in Bellevue Hospital which began in very much the same way, but the abscess pointed externally. An operation performed for the purpose of healing the sinuses was followed by repeated secondary hæmorrhages from a divided artery of abnormal distribution. The autopsy revealed several old sinuses leading into the cæcum, the small intestine, etc.

Exsection of the Tibia.—The President presented the shaft of the tibia removed by operation from a boy twelve years of age, who had been admitted into Mt. Sinai Hospital with a history of chills and high temperature, and great tenderness over the tibia. A free incision was made below the knee and above the ankle, and through these openings there was discharged a considerable quantity of pus, but the temperature remained elevated. Afterward the tibia was trephined and was found to contain pus. The wound was treated by the open method, and, the patient's general condition having materially improved, the speaker next exsected all that portion of the tibia lying between the epiphyses. The periosteum was saved and he hoped there would be reproduction of bone. He had operated within fourteen months in eight other cases of destructive osteitis of the tibia, removing from two to four inches of the bone, and all the patients had recovered with reproduction of bone except one. This patient returned three or four weeks ago with the fibula normal, but the tibia was absent to the extent of three or four inches. He then tried to obtain union between the lower portion of the tibia and fibula by removing a thin piece at their articulating surface and wiring them together. It might be necessary to perform a similar operation at the other articulation. There was scarcely any condition of osteitis of the tibia which justified amputation. He had not seen arthritis or osteo-arthritis result from resection in these cases.

Cocaine in Minor Surgery.—The President presented a lipoma and a small cystic tumor removed from the forehead, cocaine having been employed locally as an anæsthetic. He had performed a number of minor operations by using cocaine, and the patients had experienced no pain nor unpleasant symptoms. He had injected as much as three or four grains of the drug in a four-per-cent. solution at a single operation. It should be employed with greater care in the region of the fifth nerve. It was safe to use a larger quantity when the limb was rendered bloodless, as after the operation it could be "milked" out before entering the general circulation, and the remaining quantity be further diminished by the oozing which would take place on temporarily removing the Esmarch bandage.

Dr. George F. Shrady referred to a case of acute necrosis of the os brachii in which he had exsected the entire shaft, and nearly complete reproduction took place within three months.

Dr. V. P. Gibney said the operation performed by the president for uniting the epiphysis of the tibia to the fibula was similar to one performed by Dr. W. T. Bull. The case was one in which the upper and lower fourths of the tibia remained, the middle two fourths having been destroyed by disease. The fibula was bowed. Dr. Bull divided the fibula obliquely opposite the ends of the upper and lower portions of the tibia, then divided these obliquely, and united them by wire to the fibula. A firm and straight limb resulted on which the patient walked, wearing a high shoe.

Dr. Boldt had seen serious shock result from less than one grain of cocaine injected near the trifacial nerve.

Dr. Lockwood mentioned a case of cocaine poisoning produced by the injection of twenty minims of a four-per-cent. solution into the neck preparatory to tracheotomy.

Dr. Holt had seen very unpleasant symptoms follow the injection of twenty minims of a four-per-cent. solution in a child.

Dr. Schiff had seen sloughing take place in two cases of circumcision along the entire line of incision after anæsthesia produced by cocaine; he had also seen free parenchymatous hæmorrhage after operating under its influence.

The President alluded to the danger of giving ether or chloroform at once in a case in which cocaine had failed to produce anæsthesia.

Meeting of December 8, 1886.

The President, Dr. John A. Wyeth, in the Chair.

Chronic Endarteritis involving the Aorta and nearly all the Arteries of the Brain.—Dr. T. Mitchell Prudden presented the aorta and arteries of the brain of a man of middle age who had been brought to the hospital in an ambulance in an unconscious state, having, apparently, right hemiplegia, and had died a few hours later. The only lesions found were marked chronic endarteritis, involving principally the aorta and nearly all the arteries of the brain. The brain was macerated in water a week, and a current of water was then allowed to flow upon it, washing the brain substance from the arteries. The chronic endarteritis was seen to have involved both the larger and the finer vessels.

Bacteria of Typhoid Fever.—Dr. Prudden also presented a set of specimens, consisting of microscopical slides and cultivations, showing the bacteria of typhoid fever. The method of cultivation was often very easy, although not always successful.

Fibro-sarcoma of the Parovarium.—Dr. Cushier presented an abdominal tumor removed four weeks before from a woman thirty-seven years of age, who had been married nine years, but had never been pregnant. Her general health had been excellent until a year ago last September, when she lifted a heavy weight, and felt that she had strained herself. The pain subsided, but within two weeks afterward the abdomen began to enlarge, and continued to increase in size rapidly, so that in January she was unable to go about. In March her abdomen diminished in size, and she again became comfortable. During the latter part of last summer it again enlarged rapidly. Dr. Cushier saw the patient in November, when the abdomen was very much distended, apparently by an encysted dropsy. A diagnosis was made of possible ovarian or parovarian cyst. An operation was performed November 12th. As soon as the peritonæum was divided, one cyst with exceedingly thin walls burst, and a second burst as soon as it was touched. The tumor had a long pedicle, and in its division a part of the ovary was removed with it. The chief interest in the case lay in the fact that the pedicle was composed of as many as five long tubes, the caliber of which admitted an ordinary probe readily. They terminated in a blind extremity at the growth. The tumor the speaker regarded as parovarian, and the ducts as arising from the Fallopian tube. Unfortunately, only a portion of the tumor had been saved for microscopical examination, the remainder, including the ducts, having been placed in a fluid which rendered this form of examination impracticable. The diminution in the size of the tumor in March was probably due to rupture of a thin-walled cyst.

Dr. M. Putnam Jacobi thought that the tubes represented in some way the organ of Rosenmüller.

Dr. Van Giessen presented stained sections of the spinal cord at various points, showing polio-myelitis anterior and tubercle.

Tumor of the Palate.—Dr. Robert Newman presented a tumor, of about the size of the last phalanx of the ring finger, removed from the junction of the hard and soft palates, in a woman fifty-five years of age, who had noticed the growth as long ago as twenty years. Recently it had increased in size and given trouble. It was removed without pain after the patient had taken some whisky and cocaine had been applied. The tumor was referred to the Committee on Microscopy. Dr. Newman took occasion to say, with regard to the use of cocaine, that in one case the injection of twenty-five minims of a four-per-cent. solution into the bladder had immediately been followed by a bursting sensation in the head which had not entirely disappeared at the end of ten days.

NEW YORK SURGICAL SOCIETY.

Meeting of November 22, 1886.

(*Continued from vol. xliv, page 722.*)

Pyonephrosis; Nephrotomy.—Dr. Lange presented a woman, thirty-three years of age, married, who for years had had painful sensations in her left lumbar region. For about eight weeks she had suffered from severe fluor albus, most likely of gonorrhœic origin, her husband being under treatment for gonorrhœa at that time and at the present. For several weeks she had had cystitis, and within the last fourteen days severe pain in the left lumbar region had supervened.

On the 11th of March the speaker saw her in consultation with Dr. L. Strauss. She was feverish, and suffered severe pain in her left lumbar region, where a tumor of about the size of a new-born child's head could be felt, in all its relations corresponding to an enlarged kidney. Probatory puncture revealed the presence of pus. On the 13th of March nephrotomy was done by the lumbar incision, and the following condition found: There existed a large, pretty smooth cavity, covered with a thin mucous membrane. At the bottom of this cavity a roundish, fleshy elevation could be felt and seen, apparently the main portion of the kidney. This was fluctuating, and, on incision by the actual cautery, discharged a moderate quantity of pus. The finger introduced felt the characteristic edges and cavities of the dilated calices. The larger cavity was apparently not in free communication with this main part of the pelvis. By its great extension it seemed to be crowded over and overlapping the organ entirely. At its depth, also, some protruding edges of calices could be felt. Both cavities were thoroughly drained, and weak solutions of boric acid used as a wash during the after-treatment.

This case was presented principally because of the smooth recovery which took place within about eight weeks after the operation, when cicatrization was complete. The discharge of pus and urine through the wound decreased very soon, probably on account of the communication through the ureter being re-established. The urine soon showed, also, a much better condition, and was quite clear three months after the operation, containing only traces of albumin. The kidney could then be felt much reduced in size, though still somewhat enlarged. The patient, as would be seen, was then in a flourishing condition of health. From the history of the case it seemed probable that she might have had a hydronephrosis for a longer time, and that, in consequence of gonorrhœic infection, suppuration might have supervened.

Nephrectomy.—Dr. Lange gave the history of the case of a man thirty-eight years of age, a peddler, who had entered the German Hospital on the 7th of October. Through Dr. L. Weber, who sent the patient, the following information about his former history had been obtained:

"S. F., Russian, aged thirty-eight, married, peddler, seven years in the United States, came first to my office October 2, 1886. He had a decidedly cachectic appearance, and said that, having been previously well and strong, he had been taken with severe dysentery in the summer of 1880, from which he had suffered for many months; eventually recovered, but never regained his health as it had been before that illness. For the last two years he had had steadily increasing discomfort, pain and tenderness in the right hypochondrium extending from the hepatic and renal regions downward toward the iliac fossa. Severe paroxysms of running pain—as he expressed it—up and down those parts and deep-seated, would come on every night; rigors and even severe chills, followed by fever and perspiration, were of frequent occurrence. Bowels irregular; urine rather abundant, was sometimes clear, and again showed a thick, white sediment. A specimen of the urine examined the following day showed a large amount of pus and some cylindrical epithelia."

The patient was reduced in flesh and strength, and had an almost cachectic appearance. Lungs and heart normal. Abdomen slightly distended, walls resistant, so that palpation was difficult. In the right hypochondriac and lumbar region, on bimanual palpation, a tumor could be felt immediately below the liver. Intestine in front of it. Its size about that of two fists. No fluctuation; pretty hard resistance. Probatory puncture from the lumbar region gave a thick, odorless pus at the depth of about two inches. Urine contained much pus. Specific gravity, 1·018; sour; if filtered, containing slight amount of albumin. It was discharged at somewhat shortened intervals in a full stream and without pain. Microscopically, nothing but pus and a few flat epithelia, and no cylinders, could be found. The left lumbar region offered no abnormity.

Operation on October 9th, intended to be probatory; nephrotomy, with eventual extirpation of the organ, following. The pyonephrotic sac, at its lower circumference, was incised with a thermo-cautery. A great quantity of thick pus escaped. On digital examination, it was found that the whole swelling consisted of numerous pus cavities, mostly from half an inch to two inches in diameter, that it extended pretty high up toward the diaphragm, and that as a urine-secreting organ it could not possibly have any value. In view of the advanced degeneration, and the quality and quantity of the urine, the conclusion seemed justified that the opposite kidney must be comparatively healthy, while the pus must mainly be delivered from the right side. Nephrectomy was therefore done. Though the adhesions of the capsule were quite extensive, they were not very difficult to separate, and, in spite of the size of the kidney, which, to be sure, was a good deal diminished after discharging the pus, it was brought out by the lumbar incision without adding any cross-incision, as had been necessary in former cases.

It was difficult to secure the pedicle, which was thick, short, unyielding, and overlapped by the mass of the organ. A preliminary elastic ligature was finally applied, the kidney was cut away far in front of the ligature, and in this way free access to the insertion of the ureter and vessels was obtained. A double ligature was then applied behind the elastic ligature by means of Thiersch's spindles, the elastic ligature removed, and then, by scissors and forceps, so much removed of the tied-off flesh as to leave just sufficient hold for the ligature. Some iodoform was powdered over the pedicle, the actual cautery was applied, and the ligatures were left long because suppuration and sloughing were feared in view of the field of operation having been swamped by pus, and somewhat infiltrated tissue remaining in the pedicle. No sutures were applied, and the wound was loosely packed with iodoform gauze.

Recovery took place without any serious disturbance, so that on the 14th of November, or five weeks after the operation, the patient could be discharged with a healthy granulating wound. The urine was loaded with pus during the first thirty-six hours; apparently this had been pressed down into the bladder by the manipulations during the operation, and, on account of its thick consistence, only gradually excreted by the bladder. It then, almost abruptly, had changed to a more normal condition in quantity and other respects, and had remained almost normal.

The most interesting feature to the speaker in the after-treatment was this: The pedicle did not slough, and the coarse silk ligatures did not come away spontaneously, nor did they yield to repeated tractions. Finally, four weeks after the operation, they were extracted with some slight force applied, but no piece of tissue had ever been discharged which could possibly have been the tied-off, thick, fleshy pedicle. He did not suppose the latter was continuing an organic life, but he thought that it probably was gradually digested by the environing healthy granulations in the same manner in which the aseptic blood coagulum was gradually consumed, or aseptic pieces of organic tissue were annihilated by healthy tissues. Weak solutions of corrosive chloride of mercury were mainly used during the after-treatment.

It was sometimes not easy in nephrectomy to find the exact boundary-line between the tunica propria of the kidney and the hard fibrous layers into which, after protracted inflammation and suppuration, the adipose capsule was changed. He had proposed to carry an incision, with the thermo-cautery, through all the layers deep into the tissue of the kidney, and on the edges of this incision to analyze exactly the boundary-line. It was very important not to carry the operative manipulations beyond this limit, and he had once met with a serious disappointment in neglecting this rule. The peritonæum was torn without his seeing it in time, and the patient died from septic peritonitis. The removal of a very old pyonephrotic sac might be extremely difficult and sometimes impossible, of which he had satisfied himself at the autopsy of a lady who had suffered from calculous pyonephrosis for years, with perforation outward and into the colon, so that finally fæcal matter was discharged through the lumbar region. Both kidneys were affected, and the patient finally died from tuberculosis of her lungs. In this case an absolutely fixed, enormously thickened cicatricial sac, containing stones, was all that was left of the kidney, and its removal during the autopsy was attended with the greatest difficulties.

The specimen presented showed a thickened capsule, the tissue of the organ itself apparently entirely gone; the inner surface of the pus cavities irregular; the trabeculæ almost papillary, their arrangement evidently corresponding to the calices. The outer surface showed flattened elevations. Microscopical examination, made by Dr. F. Heppenheimer, showed that those trabecular prominences represented the remainder of kidney tissue in an advanced state of inflammatory and fatty degeneration, and that a thin epithelium covered their free surface, which seemed to justify the conclusion that the mucous membrane of the calices was not entirely gone.

Dr. Stimson said, in reference to the first case, that abduction at the joint was still lacking by about a half, and rotation almost entirely. The angular and rotatory displacement of the upper fragment after fractures at the upper part of the os brachii was, he thought, generally recognized, as was also the necessity of placing the lower one in a corresponding position during treatment.

The President said that the arm could be raised to nearly a right angle with the body without moving the scapula; but at that point the scapula began to move.

Dr. Lange stated that that was almost the condition of the normal subject.

Dr. Weir said that he thought this variety of fracture was not at all unique, as he could recall a good many instances where the result in usefulness of the limb had not differed from this materially. The only advantage which the operation advocated by Dr. Lange afforded was a cosmetic one—*i. e.*, that there was less deformity from the reposition of the lower fragment. As a rule, though it was not at all easy to overcome the displacement by securing the arm to the chest-wall, yet the carrying of the forearm in a sling had given results far from unsatisfactory. He would be very loath to follow the example suggested by Dr. Lange, which, though successful, had the disadvantages that of necessity appertained to an operative procedure even though conducted under antiseptic precautions that did not always protect. Bardenheuer's method he had not tried, but thought that it would be very awkward to carry it out. In his experience the fracture was a less disabling one than it looked to be.

Dr. Lange said that if Dr. Weir believed he preferred the radical operation, he was mistaken. But that in this patient there was perforation and interposition of the deltoid, and from the position of the fragments an operation was indicated; he did not think in this case the result would have been satisfactory unless operative procedures had been taken. In the second case he had only carried out the principle of elevation and rotation. He considered the method of treatment very rational.

Dr. Weir replied that he could recall two recent cases in which one fragment of the bone projected through the muscle and was lodged under and in the skin; but, although reduction could not be accomplished, good union resulted, as in such cases the lower portion of the fractured surfaces from their great obliquity were apposed.

Dr. Lange stated that he had very strong doubts if reduction could have been secured in this patient, and a satisfactory result been obtained.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of June 15, 1886.

The President, Dr. John A. McCorkle, in the Chair;
Dr. C. E. De la Vergne, Secretary.

A Rare Case with Obscure Diagnosis was the subject of a paper by Dr. O. C. Henry. [See vol. xliv, page 713.]

Antiseptics in Obstetric Practice.—A paper on this subject was read by Dr. S. H. Benton. [See page 5.]

Dr. Otterson thought that Dr. Benton's paper had covered the whole ground except that which might be discussed in the light of various theories. Of course, medical science must mean only progress, and since it had been his privilege to enter the profession it had progressed immensely and rapidly in all directions. One of the prominent additions was that of antisepsis. That was in his early days chiefly confined to the question of tidiness, and, although he was credited with having had a large experience with obstetrical practice, his unfortunate cases had been very few indeed. The early years of his practice had not been among that class who could afford to disinfect much. He used to rely upon cleanliness—thorough, persistent—and that he insisted upon, and he did not think that by the observation of those particularly minute points the result was very different from that which obtained among the older practitioners. His position had brought to his attention within the last few days twenty-three cases attended by a German midwife. It was not to be supposed that they were among that class of population where sanitation could be or was thoroughly observed. The localities were such that we knew that sanitation was not practiced to any great extent. Now, if cases of puerperal fever had occurred, they also would have been observed, but none had been noticed.

A few years ago chloroform had been introduced, and had been a boon to the human race. Antisepsis also had more recently been brought forward, and those who keep pace with the progress of the science of medicine must adopt it. It, in his opinion, was *not a sine qua non.*

Dr. Thayer had had no personal experience worthy of record in regard to antisepsis. He had noticed, however, that great attention had been given, of late, to the subject in medical journals and medical societies. He had been much interested in the experience of Dr. Corson, of the interior of Pennsylvania, as given in a paper read before the Obstetrical Society of Philadelphia in April. Dr. Corson was a gentleman apparently about eighty years of age, and his practice covered a period of about sixty years. He had attended over thirty-six hundred cases of midwifery without employing any antiseptic measures. Other practitioners, quoted by Dr. Corson, also gave an experience very nearly as large, with results so thoroughly good that it seemed to furnish the strongest argument possible against the ground assumed by the strong advocates of antisepsis—that was, that the health of the patient was very much endangered if thorough antisepsis, as advocated by Thomas and others, were neglected. He was well aware that obstetrical practice in hospitals might furnish very different results.

Dr. L. S. Pilcher had hoped that some of the gentlemen would speak on the surgical side of the question. If he could do anything to divert the flow of the debate to that side—as it had thus far been taken up by obstetricians—he would be glad to do so, for it seemed to him that there were some points in connection with the subject that had been overlooked. First, with regard to the paper itself. If he was correct, the title of the paper was, "Whether the Use of Antiseptics is Essential to Success in General Surgical and Obstetric Practice." It seemed to him that there had been a very serious omission—serious from the standpoint of any satisfactory discussion of the views brought forward, viz., that there was no attempt made to define the word antiseptics. Until there was some understanding of what was being talked about, it would be difficult to have a profitable discussion. He did not know, even at this stage of the discussion, what was included by the author of the paper in the term under discussion. There were two antiseptic agents mentioned—namely, carbolic acid and corrosive sublimate or the salts of mercury. From the standard of general surgery, it seemed to him that these were two antiseptic agents which were extremely limited in their use in the surgeon's usual work. The term antiseptics certainly could not be narrowed down to these two agents. It seemed to him that the fundamental point with reference to all these questions about the use of antiseptic agents was to consider whether there was a *sepsis* to be antagonized. If there was a *sepsis* to be antagonized, what would antagonize it? If it was not antagonized, would it do any harm? Go a little further and inquire—if it was taken for granted that there was a sepsis—what the active agent of that sepsis was? If we could find what the active agent was, we were ready to find out what would antagonize it. He was firmly convinced that the active agents of sepsis in all wounds were minute living organisms. That subject had been gone over here again and again, and most thoroughly. He did not see that the author of the paper had denied the statement, or was ready to deny it, that in all septic conditions the active agents of the sepsis were minute living organisms. He would put that down, then, as a fact established in science at the present day. It was just as much established as that oxygen and hydrogen were combined in the production of water. As we could not have water without hydrogen and oxygen, so the presence of a living organism was necessary to induce a septic change in an animal fluid. If that was the case, it became desirable to look a little further and see what it was that would promote the activity of these micro-organisms. One of the most essential things was that they should have a proper substance upon which to feed—a proper pabulum for growth and development—and that was given in the wound-secretions of ordinary surgery. Now, if these wound-secretions became infected by these organisms, there might result an absorption of hurtful substances from this infected material into the system. Drainage thus was an important antiseptic agent by removing the material required for the generation of sepsis. It was the great antiseptic agent which every surgeon should take advantage of in every case under his care. Could successful surgery be done without drainage? Most certainly not. He believed that the author of the paper would be equally strong as to the value of drainage in his treatment of wounds. Turning a moment to the department of obstetrics: After the birth of a child there was an open surface—comparable to that of a wound—presented in the cavity of the uterus. The secretions which were poured forth into the cavity of the uterus were wound-secretions. Were they retained? On the contrary, nature had provided a most perfect drainage for these secretions and, as long as drainage of these secretions was perfect, as long as they were removed properly after their exit at the mouth of the vaginal drainage-tube, there need be no fear of trouble.

Still further, in living tissue, the vital quality of the tissue presented to us an ever-present antiseptic agent. Living blood itself was an ever-present and important antiseptic agent. Let us not overlook this fact. Nature had provided for the overcoming of these troublesome living organisms to a certain degree by the inherent antiseptic power of the living tissue. Could surgery or obstetrics be carried on without this successfully? Most certainly not. Given these two agents—a sufficient vitality, a sufficient vital force in the tissue with which we had to deal, and free drainage—and there was but little doubt that, in a great majority of cases, wounds would be conducted to a happy issue, and obstetrical cases would terminate successfully, and it was to these two things, which were provided for us, that much of the success of surgical and obstetric work was due. It was to the high degree of vitality of the individuals themselves that was due, to a large extent, the greater success of the country practitioner than the city practitioner.

If we went beyond these two agents, and considered those which were purely of a chemical nature, there was a very considerable number of cases in which only a problematic success could be looked for, unless advantage was taken of chemical antiseptic agents. It was not necessary to go to the wards of Glasgow's Royal Infirmary, or to the crowded wards of King's College Hospital, for an example of what could be accomplished by the use of those chemical antiseptic agents. Those who had been familiar with the surgery and obstetrics of Blackwell's Island and Bellevue Hospital fifteen or twenty years ago, and compared them with those of to-day, needed no further proof of the value of these chemical antiseptic agents in gaining a higher and more certain degree of success in both surgery and obstetrics. He would go even further and would say that, if in the city of Brooklyn itself a hospital were chosen in which antiseptic agents were thoroughly applied, and one in which antisepsis was only indifferently practiced—a given number of cases of compound fracture to be observed in each—he would be willing to leave the decision of the question to the results which the observer would find. In the one case there would be a record of prolonged suppuration, septicæmia, weeks of prolonged suffering, ending, in a considerable proportion of cases, in death; in the other, a single dressing, an entire absence of fever and suppuration, and a prompt healing—as prompt as if the case were one of simple fracture. Could such a contrast, not in one or two cases, but in a series of cases placed side by side, be a matter of chance? Could the better results be obtained in any other way than by that of antagonizing septic organisms by the systematic and adequate use of antiseptic agents? Perhaps no more positive example could be shown than that which had been presented by the president of this society at the last (May) meeting, in which a knee joint had been opened by an incision which extended from below the patella upward half the length of the thigh, in which the patella fragments were refreshed and were sutured together with wire sutures, after the muscles above had been divided by a zigzag incision, the muscular fibers drawn apart from each other; and by the use of adequate antiseptic measures, the drainage which had been spoken of, and the chemical antiseptic agents of which he was now speaking, and a proper dressing of the part, prompt healing had been as positively assured from the first as if the case had been one of simple fractured radius. It was absolutely impossible that such things could be paralleled by any other treatment, and yet such things were being done daily in the surgical practice of our country, and with equally good results. It seemed, then, that, while it was perfectly true that a large degree of success in surgical and obstetrical practice could be carried on without having systematic recourse to the use of chemical antiseptic agents, nevertheless, the secret of the success which we did have was due to the *involuntary* use of antisepsis, and that, in a certain class of cases, the highest degree of success was to be obtained only by the use of chemical antiseptic agents in addition to the means which nature provided.

Dr. C. **Jewett** said that the medical mind was easily captivated by what was definite and tangible in pathology and therapeutics, and it was possible that, in the matter of antiseptic doctrines, our zeal had gone too far. At all events, it was wholesome to mingle a little conservatism now and then with our enthusiasm. We were indebted to the reader of the paper, therefore, for calling attention again to the neglected side of this question. The paper raised the question whether the improved results attained under the modern antiseptic system were to be credited to the chemical agents employed, or simply to the cleanly methods inculcated by this system. The importance of an exalted cleanliness could not be doubted. In questioning the necessity for chemical antiseptics the writer's position was at least a safe one, for the precise value of the chemical agents in the antiseptic methods was difficult to determine. Yet the speaker's sympathies were with those who used them. The statistics of the best lying-in hospitals of this country and of Europe bore united testimony to the value of the modern antiseptic practice. True, the improved results could not be wholly attributed to antiseptics, but were partly due to greater care in the matter of cleanly methods. Of one thing he was certain: that, while formerly it had been necessary for the physician to retire for a time from obstetric practice after septic contact, he was indebted to antiseptics for the fact that he could now prepare himself to safely take charge of a labor case within an hour after the most dangerous contamination.

The speaker would certainly feel culpable if he omitted all antiseptic precautions in the conduct of an obstetric case. Yet he believed more in the prevention than in the cure of infection for the obstetric wounds. He addressed his antiseptic measures more to the surroundings than to the passages. There were certain occasions for the prophylactic use of the douche, but it was not called for as a routine measure. As to the remedial value of the antiseptic douche in puerperal fever, his results differed. In a certain proportion of cases the pyrexia was promptly controlled. Possibly these were cases of mere putrid intoxication, or, in other words, were due to the absorption of the chemical products of putrefaction taking place in the passages. Irrigation washed away the decomposing material and removed the depot which had supplied the poison. In true septicæmia, when the micro-organisms had invaded the tissues and the blood, it was unreasonable to expect any curative effects from douching the passages.

Dr. **Benton**, in closing the debate, said that he did not take into consideration the analysis of the different kinds of antiseptics used by surgeons, which Dr. Pilcher thought necessary in order to discuss his paper intelligently. For, when we said we treated wounds antiseptically, we meant, as he had supposed all surgeons desired to be understood, the application of certain chemical agents which were supposed to destroy germs and promote healthy granulations in wounds. Of course, he admitted the efficacy of the drainage-tube, the use of which was antiseptic. Dr. Pilcher seemed to be satisfied that the germ theory, as the cause of disease, was positively settled in the affirmative. This the speaker thought could not be true, for, if he mistook not, a very respectable number of good men, both in this country and in Europe, were not clear on the question. As he was not qualified to discuss the subject from a scientific standpoint, of course he could not affirm that Dr. Pilcher was wrong, and bacteria in the blood might, after all, be the exciting cause of disease in all cases. But for a time yet he thought the Scotch verdict must prevail.

The brilliant result attained by the president, in a case exhibited to the society at the last meeting, was certainly a great achievement, and we must all feel proud of his results. But were we prepared to say that his success was due entirely to antiseptics? He hardly thought so; in fact, he did not think his success in surgery was due to antiseptics any more than, if as much as, to his rapidity and precision in operating. It had been his privilege to open several joints, elbow and knee, without antiseptic precautions and without bad results. It was within his memory that to open the abdominal cavity was considered a very grave procedure. But that was a matter of history. Mr. Tait had rendered a report of one hundred and thirty-nine consecutive ovariotomies done in 1885 without a single death, and the strangest thing in this report was that he used no antiseptic precautions whatever, simply irrigating the abdominal cavity with "water on tap," full of "spores and germ life," to use his own words. It would seem that if these little germs or micro-organisms were so very pernicious, some infection would have been manifested in one or more of his cases.

Book Notices.

Manual of Diseases of the Ear, for the Use of Students and Practitioners of Medicine. By Thomas Barr, M. D., Surgeon to the Glasgow Hospital, etc. Glasgow: James Maclehose & Sons, 1884. Pp. xxvii–3 to 529.

This book seems of about the average excellence of the more recent books on the ear emanating from the United Kingdom. The author shows evidence of having consulted text-books rather than journal literature in his preparation for the work.

His individual experience does not seem to have been an important item in the making of the book. Although American writings are little if at all referred to, Noyes's double-curved catheter is alluded to, but without mention of Dr. Noyes's name.

The diagnostic tube is still erroneously called the otoscope. The section on auscultation is not good; this subject has not generally been well expounded in books on the ear.

In considering bone-conduction several omissions are made, notably the failure to contrast bony with aërial conduction.

Chapter II, on the causes of ear diseases, might better have accompanied an account of the diseases themselves. The same may be said of Chapter IV, on methods of treatment.

Chapter III, on diseases of the tympanic membrane, shows how little can be made of this subject taken only by itself. Fig. 60, exhibiting the normal drum-membrane, has the most peculiar posterior fold perhaps ever observed. The description of acute non-suppurative inflammation of the middle ear seems to us inadequate, although the treatment detailed is reasonably good. The woodcuts, as a rule, are good; some, however, like those on pages 285 and 287, do not seem to illuminate the text much. The subject of fluid exudations in the tympanum is well treated of.

The subjective symptoms of chronic dry catarrh of the middle ear are well told; so also are the points regarding its diagnosis; but one wonders how he could be sure of all the diagnostics laid down. In this affection also the author fails to mention how often the improvement of hearing from inflation remains permanent. In discussing dilatation of the Eustachian tube he appears not to have related much personal experience.

His unfavorable opinion on division of the tensor tympani will be shared by most aural surgeons.

The subjective symptoms of acute suppuration of the middle ear are very inadequately stated. On page 335 the reader is referred to another part of the book for treatment. This seems to have been done too frequently; it is inconvenient. Speaking of chronic suppuration of the middle ear, the author says in italics, "the tympanic membrane is *almost* always perforated"; need he have said almost? On page 342 the subject of perforation of the membrane is well handled, although some of the illustrations are not specially good. Much effort is exhibited in the book toward classification, which rather complicates things than otherwise; see page 352, for instance. On page 354 the diagnostics of perforation of the drum-membrane are well stated, and the section on treatment is judicious. As to the treatment of polypi, he very properly gives the forceps an important place in the removal of the growths. Caries and necrosis are rather fully treated of. The indications for opening into the mastoid cells are hardly given at all, nor is the operation described—an important omission.

The subject of cerebral abscesses is fairly disposed of. So also are those of phlebitis, thrombosis, embolism, and pyæmia.

Diseases of the inner ear are rather fully treated of, but, as is the case with most books, rather unprofitably.

Nearly ten pages are occupied in discussing tinnitus aurium. One would infer that less space would have sufficed to show how little may be done for it. Ten pages are devoted to deaf-mutism, a rather unprofitable subject. The anatomical and physiological part of the book is fairly done, though whether the general practitioner will read it is a matter of question. Eleven pages are devoted to formulæ, which perhaps are of doubtful value.

The index is full and satisfactory, the print and paper are good, and in many respects the book is worthy of commendation.

Hand-book of Diseases of the Ear, for the Use of Students and Practitioners. By Urban Pritchard, M. D. (Edin.), F. R. C. S. (Eng.), Professor of Aural Surgery at King's College, London, etc. With Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. xi–207. [Price, $1.50.]

This little hand-book is intended solely for the aid of students and practitioners, and is written from an eminently practical standpoint. The author has avoided all controversial points, and gives simply the results of his own observation and experience. There is a short opening chapter on the anatomy and physiology of the ear, which is followed by one on the objective and subjective methods of examination. The author prefers the short speculum with the circular narrow orifice to all others, and for artificial illumination recommends Trouvé's incandescent forehead-lamp or photophore. He wisely insists on the absolute necessity of examining the pharynx in all cases of ear disease. He also advocates the employment of Gardiner Brown's method of measuring the amount of skull-hearing in patients with disease of the middle ear. The differential diagnosis of Ménière's disease from epilepsy and other brain disease is well considered. There is, perhaps, an insufficiency of illustrations, but this may be excused in a hand-book of such small dimensions. The work is to be commended for its simplicity and directness.

Transactions of the American Gynæcological Society. Vol. X. For the Year 1885. New York: D. Appleton & Co., 1886. Pp. 13 to 357.

This volume comes to us attractive in its exterior and in its table of contents; nor are we disappointed on bestowing closer attention upon it. The variety of the subjects selected by members of the society for presentation at their last annual meeting, and the exhaustive attention which each has received, make this volume of transactions of special interest.

The reports of the discussions, which are thorough and satisfactory, add much to the interest. It is gratifying to observe that this representative organization is not a "tube-and-ovary society."

BOOKS AND PAMPHLETS RECEIVED.

A Text-book of Medicine, for Students and Practitioners. By Dr. Adolph Strümpell, formerly Professor and Director of the Medical Polyclinic at the University of Leipsic. Translated by permission from the Second and Third German Editions, by Herman F. Vickery, A. B., M. D., Assistant in Clinical Medicine, Harvard Medical School, etc.; and Philip Coombs Knapp, A. M., M. D., Physician to Out-patients with Diseases of the Nervous System, Boston City Hospital, etc. With Editorial Notes by Frederick C. Shattuck, A. M., M. D., Instructor in the Theory and Practice of Physic, Harvard Medical School, etc. With One Hundred and Eleven Illustrations. New York: D. Appleton & Co., 1887. Pp. xx–981. [Price, $6.]

Manual of Operative Surgery. By Joseph D. Bryant, M. D., Professor of Anatomy and Clinical Surgery, and Associate Professor of Orthopædic Surgery in Bellevue Hospital Medical College; Visiting Surgeon to Bellevue Hospital, and Consulting Surgeon to the New York Lunatic Asylum, etc. With Seven Hundred and Ninety-three Illustrations. New York: D. Appleton & Co., 1887. Pp. xxvi–530. [Price, $5.]

Remarks on Abdominal Section, with the Histories of Fifteen Cases. By Joseph Taber Johnson, A. M., M. D., Washington, D. C., Professor of Obstetrics and Gynæcology in the Medical Department of the Georgetown University, etc. [Reprinted from the "Virginia Medical Monthly."]

Sixth Annual Report of the State Board of Health of New York. Transmitted to the Legislature, March 19, 1886.

Cataract Extraction without Iridectomy. By G. H. Powers, A. M., M. D., Professor of Ophthalmology and Otology in the University of California. [Read before the San Francisco Medical Benevolent Society, November 22, 1886.]

Reports on the Progress of Medicine.

GENERAL MEDICINE.

By H. N. Vineberg, M. D.

The Operative Treatment of Pleuritic Exudations.—Fräntzel (Proc. of the Fifth Congress for Internal Medicine, held at Wiesbaden; Supplement to "Ctrlbl. für klin. Med.," 1886, No. 26) lays down certain rules to be followed in tapping fibro-serous exudations. These, in the main, do not differ from the usual rules. Any vital indication, sufficient effusion to cause dyspnœa, or absolute dullness of the whole front part of the chest, even without dyspnœa, calls for the operation. If the displacement of the neighboring organs is not extreme, and the amount of fluid only moderate, one may wait until the inflammation has reached its height. Then one does not operate, as a rule, before the expiration of three weeks. The punctures should be made on the right side between the mammary and anterior axillary lines at the upper edge of the sixth rib; on the left side between the same lines, but at the upper border of the fifth rib. It is not advisable to puncture deep in the back. No more than 1,500 c. cm. (52 ounces) should be removed at a time. Diagnostic aspirations with a hypodermic syringe are necessary only to over-timid physicians. Attacks of syncope, even at times cases of inexplicable death, occur during the operation, but the author has never had any of the latter in his experience. By aspirating slowly (1,500 c. cm. require at least half an hour) troublesome fits of coughing and œdema of the compressed lung are avoided, but not hæmorrhage, which may even be fatal. Fortunately, the latter is a very rare event. After aspirating, it is well to put the patient to bed, keep him on a spare diet, and apply an ice-bag to the site of puncture. After two or three days, if the fluid does not rapidly reaccumulate, a moderately rapid absorption, attended with considerable diuresis, takes place. Light counter-irritation (iodine applications), and cinchona and acetate of potassium internally, favor absorption. In copious effusions repeated aspirations are necessary. If after the operation an increase of the effusion is attended with high fever, the pleurisy is either carcinomatous, tubercular, etc., or the exudation has become hæmorrhagic, purulent, or even putrid. The diagnosis of purulent or putrid exudations rests on high fever, which in two to four weeks takes on a hectic character, pain on pressure, spontaneous pain, and œdema of the affected side. Here operate at once. If the effusion is purulent only, not putrid, it is well, before resorting to the radical operation, to try aspiration, repeated two or three times. In carrying out the radical operation, Fräntzel recommends making a pretty wide opening into the pleural cavity, which must be done under strict antiseptic precautions. Behind, the opening should be in the ninth or tenth intercostal space, and in front, in the fourth intercostal, external to the mammary line. A large drainage-tube should be passed through the wound from before backward. In most cases the ribs require to be resected. After the operation the pleural cavity should be washed out with a chloride-of-sodium solution until the fluid that comes away is quite clear; then the usual antiseptic dressing is employed. Over the dressing, on the site of the wound, an ice-bag is to be applied twice daily; the patient must be kept perfectly quiet, and given a light meat diet with a moderate amount of wine. The dressing should be renewed every twenty-four hours, and the cavity washed out with disinfectants. If, in spite of all the foregoing, the patient continues feverish, the contents of the pleural cavity grow more putrid, and the appearance of the wound is unhealthy, it is almost certain that there is a tubercular affection. Fräntzel has never had good results from the radical operation in cases of tubercle, and contents himself, in the presence of that complication, with simply aspirating or puncturing. The exudation becomes putrid either from the entrance of air into the pleural cavity, or from the entrance of germs in some other way—for example, from circumscribed gangrene of the lung, which is not infrequent. As soon as a diagnosis of a putrid exudation is made, the radical operation must be performed. In pyopneumothorax and pneumothorax the method of operating is precisely the same as in simple empyema. The radical operation, then, is excluded where cancer or tubercle is the cause of the pleuritic effusion. Weber, of Halle, for the most part agrees with Fräntzel, but operates much earlier, so as to avoid long-standing compression of the lung and the formation of fibrinous bands, both of which are the causes of many sequelæ. Recently he has aspirated as early as the sixth or eighth day, but most frequently not before the fourteenth day, and has had most favorable results. He prefers an instrument of his own to that in common use. It acts on the principle of a siphon, and care is taken that the air is thoroughly excluded. He allows as much fluid to come away as will. A little blood discoloring the fluid is occasionally seen, but is of little or no significance. It is only when the effusion is decidedly bloody that the suspicion of a grave disease may be entertained.

Fiedler, of Dresden, has performed thoracentesis over three hundred times. He condemns aspirators because one can not estimate what force is being used to withdraw the fluid. Any instrument acting on the principle of a siphon, and which does not allow the entrance of air into the pleural cavity, is preferable.

Litten, of Berlin, favors tapping early, and does not consider fever a contra-indication, but, on the contrary, says the fever falls after the operation. In favorable circumstances the lung will re-expand after a compression of eight to twelve weeks. He has seen, in patients who were previously quite healthy, acute miliary tubercle follow the absorption of a large pleuritic effusion.

Jürgensen, of Tübingen, considers as of very little account the wounding of the lung with a slender cannula. He has often done it without ill results, and once had the occasion to examine a lung that had been so pierced twenty-four hours afterward, and found only a spot of hæmorrhage of about the size of a pea, without a trace of inflammation.

Fräntzel, in replying, says he has never tapped as early as Weber, but that in the future he will give early tapping a trial. As regards washing out the cavity in purulent exudations, the number of times will vary with individual cases. He has had cases, but in children only, in which once was sufficient. The ideal cure is without rib-section, and hence no subsequent deformity; but this ideal is seldom obtained, and then only in fresh cases and in young individuals. He emphasizes his former caution of removing only 1,500 c. cm. at a tapping, and says that he himself began to practice this only after witnessing the unpleasant symptoms following the removal of large quantities.

Mytilotoxin.—Brieger (*ibid.*) has succeeded lately in extracting from putrefying horse-flesh another non-poisonous base and a poisonous acid. He has obtained from the poisonous mussel (*Miesmuschel*) its characteristic poison, mytilotoxin. The production of this body also stands in connection with putrefaction. In reference to the chemical action of other micro-organisms than the putrefactive, he has found that *Staphylococcus aureus* forms ammonia in great quantity, and *Streptococcus pyogenes* trimethylamine. From cultivations of Eberth's and Koch's typhoid bacilli he obtained a peculiar poison which infects guinea-pigs, paralyzing the voluntary muscles and exciting the flow of the saliva and the secretions of the alimentary canal. "Not only typhoid, but also other infectious diseases, such as cholera and tetanus, are finally produced through the agency of toxin."

Variations of the Blood-pressure in the Ventricle of the Heart during Morphine Narcosis.—Fick (*ibid.*), by means of his improved manometric methods, showed graphic representations of the variations of the blood-pressure in the left ventricle of a dog narcotized with morphine. Slight elevations of pressure during diastole were noticed. These Fick attributed to incomplete systolic contractions, which were not strong enough to produce a wave in the arterial system, and so were not perceptible to the usual manometric examination. The slowing of the pulse caused by morphine must hereafter be attributed to a more or less regular alternate suppression of the systolic contractions, which, at a certain stage of the narcosis, are no longer complete. In conclusion, Fick drew attention to the importance of his manometric method, by which the variations of the blood-pressure in the heart itself can be observed.

Basch, of Marienbad, had occasionally observed that the diastole, after injections of muscarine, was interrupted by slight elevations, which apparently denoted abortive contractions. Still, he could not speak with the same certainty as Fick, inasmuch as his observations had been confined to blood-pressure in the aorta. Basch demonstrated two curves in morphine-narcosis, the result of experiments made by Prof. Rosenthal. These showed that, after an injection of morphine, the blood-pressure rose in the veins and sank in the arteries during slowing of the pulse, but the arterial pressure might also rise and fall along with the venous.

Binz, of Bonn, remarked that Fick's communication was of the highest interest in both a theoretical and practical sense, because it had been asserted, on the strength of incorrect experiments on animals, that morphine, in poisonous doses, left the heart untouched.

Riegel, of Giessen, would add only a few words of clinical import. Cases were not infrequently seen in which to every two apex-beats there were two venous pulsations, and only the first apex-beat was represented by an arterial pulse. This was formerly known as a hemisystole. Whether this was the case or not he would not say, but thought that the absence of an arterial pulse did not mean the absence of a contraction of the left ventricle. This view he considered was confirmed by Fick's observations.

Averbeck, of Bad Laubach am Rhein, thought the results of Fick's experiments would explain hitherto puzzling clinical observations. It occasionally happened that in injecting morphine a vein was pierced, and then, even in persons accustomed to the drug, extremely unpleasant symptoms followed, which might be only of momentary duration. A few seconds after the injection the heart-beat was accelerated to twice or thrice its normal rate, and this was attended with a congestion of the head. After fifteen seconds or half a minute, according to the dose, these phenomena suddenly ceased, and the quieting influence of the drug manifested itself by a slowing of the pulse. This hitherto inexplicable condition was fully explained by Fick's researches; the morphine acted as an irritating cardiac poison, its narcotic effect manifesting itself afterward. Fick's experiments also explained the enlargement f the left heart in morphine *habitués*.

Electro-diagnostic Methods.—Stintzing (*ibid.*) says, despite the great progress that has been made in electro-diagnosis, a stage has not yet been reached in which we can compare our results of electrical examinations. The cause of this is twofold: first, in the employment of various kinds of galvanometers, and, secondly, in using electrodes of different sizes. He recommends an electrode of a certain size (with a surface of three square cm.) to be used in all examinations of motor nerves. Along with this he recommends the employment of Edelmann's "unity galvanometer." Armed thus, Stintzing has made several examinations of normal and pathological nerve conditions, and, though variations were observed in normal nerves, they were slight compared with the variations noted between a normal and a pathological nerve. Tables were exhibited showing the minimum and maximum amounts of electricity required to stimulate normal nerves.

Diabetes.—B. J. Stokvis (*ibid.*) divided the subject into three parts:

I. *The Relation of Diabetes to Albuminuria and Nephritis.*—Albuminuria is a very frequent complication of diabetes—very marked in severe forms, only a trace in mild cases, and absent but in a small minority of cases. Not infrequently it seems as if sugar and albumin alternated, but this phenomenon is due to the circumstance that when the glycosuria is severe there is marked polyuria, which renders the albumin difficult of detection. The pathogenesis of the albuminuria is a more or less intense nephritis, varying in kind from the simply swollen to the contracted kidney. The glycogenous infiltration of the epithelial cells is less the cause of the albuminuria than the specific changes in the glomeruli induced by the foreign material circulating in the blood. In animals in which an artificial diabetes is provoked, an albuminuria, persisting for some time, concurrently makes its appearance. From a prognostic point of view there are two sets of cases. In one there is a slight albuminuria which, after the glycosuria ceases, seems to increase, but yet soon disappears entirely; in the other the albuminuria persists after the cessation of the diabetes, and continues as a nephritis in one third of all cases after the diabetes is cured. There is no special treatment required for the albuminuria complicating diabetes, only that here, more than in other cases, the heart must be spared and the bowels regularly moved by means of salts.

II. *The so-called Coma Diabeticum.*—Two forms of this are to be distinguished. In the one there is every appearance of collapse, and the only symptoms of intoxication are slight somnolence and incomplete loss of consciousness; there is no peculiar odor at the mouth, no acetonuria or diaceturia. In the other form the manifestations of intoxication are very pronounced: there is a feeling of drunkenness which passes into lethargy, then into coma, with a small, frequent pulse, and dyspnœa. The first form is to be attributed to an exhaustion of the heart, or, if one prefers, to a sudden exhaustion of the nerve-centers—self-intoxication can not be entertained. In the second form there is self-intoxication, which is nothing more nor less than a special form of uræmia. In this form there are always found volatile excretory products in the urine, which suddenly accumulate, owing to the nephritis, and produce self-intoxication. Age, sex, lightness or severity of the diabetes, have no influence on the development of the coma; but coma is never seen in cases attended with marked pulmonary phthisis. A disposing cause in the first form is fatigue; in the second, excess of some kind causing digestive disturbances. We have no certain knowledge of the toxic agent producing diabetic coma, and we do not know if it is produced by an animal or mixed diet. In the first form the principal point is to strengthen the heart, and in the second all errors in diet must be avoided and the bowels must be kept free.

III. *The Dietetic Treatment of Diabetes.*—Carbohydrates must be absolutely avoided. The diet must consist of albumin and fat. A palatable bread free from carbohydrates has not yet been made. Milk, kumyss, kefir, and the like, are out of the question, as the milk-sugar is converted into grape-sugar by diabetic patients, but curds and fresh buttermilk may be allowed. Total abstinence causes the sugar to vanish, but the experiment is not safe, and on return to food the sugar reappears. Exercise is of decided value, especially in fat persons with much uric acid in the urine; but one must individualize to prevent ill-effects on the heart. Mental quietude is of great importance.

Hoffmann (as associate reporter) particularly emphasizes the relation between diabetes and the nervous system, and can not draw a sharp line between glycosuria and diabetes. He has found that those cases which presented marked changes in the central nervous system always offered some characteristics differing from other cases of diabetes. He believes with other clinicists that there are several forms of diabetes, but does not agree with those who would divide diabetes into different diseases. Of characteristic forms he recognizes the *neurogenic* and the *fatty*, but rejects the *pancreatic* form. He has collected forty cases of diabetes with autopsies, all of which show changes in the upper part of the cervical cord, medulla oblongata, or pons, and also forty other cases in which diabetes followed injuries to the head so rapidly that some connection had to be assumed. This form—*the neurogenic*—is characterized by the non-development of obesity, the absence of carbuncles and furuncles, and the rare occurrence of albuminuria and cataract. The course depends, in the main, upon the disturbances of the nervous system. Many cases are curable; the incurable ones prove fatal generally in two to three years.

The *fatty* form is distinguished from the *neurogenic* by the frequent occurrence of boils and carbuncles, the association with gout and nephritis, and the duration of the disease, which in many cases is ten years and over. Cures occur here also, but in a later stage of the disease, and not infrequently the diabetes is replaced by gout or nephritis. Hoffmann thinks that a division into *constitutional* and *accidental* diabetes is of more practical value than into a mild and a severe form, as heretofore has been made. The *neurogenic* is the type of the accidental, the *fatty* of the constitutional form. But it would be a mistake to always adhere closely to this division, for many suffer from constitutional diabetes who were never fat, while others who are fat suffer from the accidental form. This classification has an important bearing on prognosis, which is favorable in the accidental and doubtful in the constitutional variety. It has also a practical value in our treatment of the affection. Of the great number of remedies recommended, Hoffmann speaks only of those he himself has tried. He divides them into two groups—those influencing the constitution, and the specifics. Among the first he mentions iron, quinine in small doses, cod-liver oil, Carlsbad and other health resorts, alcohol, kumyss, and milk. Of the second he gives prominence only to opium and salicylic acid. In *accidental* diabetes he insists on an absolute flesh diet, which, he believes, is useful in the constitutional form. It is not safe to carry out this regimen for too long a period or too continuously, as under it he has seen more than one patient get worse.

Mering, of Strassburg, agrees with Hoffmann that in many severe cases a close adherence to a flesh diet may be injurious. He places great reliance upon muscular exertion. It makes a great difference whether the sugar is passed by the kidney or burned in the body, inasmuch as warmth is produced, the muscles are strengthened, and elimination is promoted.

Finkler, of Bonn, speaks of the pathology of diabetes. He particularly supports the view that in diabetes more than one organ is involved, and especially the nervous system in connection with those organs which produce and consume glycogen. He has made experiments in reference to the *rôle* played by diseases of the pancreas in causing diabetes. The results have been negative. Extirpation of the pancreas, or tying the duct of the organ, even when the animals were fed on carbohydrates, did not produce diabetes. Neither was that disease produced when, in addition to the extirpation of the pancreas, the salivary glands also were removed, and the animals fed on glycogen or sugar. Finally, injection of pancreatic ferment under the skin, into the abdominal cavity, and into the veins, failed to evoke diabetes. It must then be concluded that, if in diabetes the pancreas (as is often the case) is found to be the seat of morbid changes, the connection of these with the diabetes must be sought in an affection of the cœliac plexus. Finkler does not think that the *neurogenic* and *constitutional* forms can be separated. He holds that the oxidation of the carbohydrates is dependent upon the nervous system, and that diabetes is produced under the influence of the nervous system acting upon those organs that regulate the production and consumption of glycogen.

Bäumler, of Freiburg, mentions only two points in reference to the many-sided relationship between albuminuria and diabetes: One is, that in a case of long-standing diabetes, suddenly, during an attack of pneumonia, erysipelas, or the appearance of a carbuncle, severe albuminuria sets in. Here, evidently, we have to deal with a septic (*infektiöse*) nephritis which is accidentally connected with the diabetes. In other cases the patient is past middle life, and is given to corpulency, the albuminuria is coincident with the diabetes, there are changes in the vascular system, hypertrophy of the heart, optic neuritis, etc. Here the albuminuria is a correlative of the diabetes; like it, it is dependent upon a lesion affecting the whole constitution.

The Tendon-Jerk and Muscle-Jerk in Disease, and especially in Posterior Sclerosis.—Dr. S. Weir Mitchell and Dr. Morris J. Lewis ("Am. Jour. of the Med. Sci.," Oct., 1886) contribute a short paper with this title. A sketch of the history of the knee-jerk is given. In 1883 Jendrassik showed that violent exertion—such as lifting weights or clinching the fists—increased the response to a blow on the patellar tendon. Later on the authors showed that every distinct muscular exertion, even if as slight as winking, increased the jerk, if it was timed correctly. Every strong sensation on the skin acts in the same way. If sudden exertion is combined with violent sensations, like that caused by the faradaic wire brush, the coincident knee-jerk equals that seen in spastic disorders. If the muscle itself is struck sharply with a percussion-hammer, the fibers shorten in response to the blow, and the same laws apply to the increase of this as of the knee-jerk. Section of the nerves, or disease of certain portions of the cord, as in posterior sclerosis, ends all tendon-jerks, while a blow on the muscle still evokes local motion in its tissue. These facts the authors have applied in the study of twenty-three cases of locomotor ataxia, the results of which are given in three tables. In these they have represented symptoms and their force by signs. A search for tests of the pre-ataxic stage was unfruitful; the earliest signs found were pains, or strabismus, and with these, loss of knee-jerk. The tendon-jerk could be re-enforced by exertion and violent sensations during the first stage, while the muscle-jerk could be re-enforced by the same means during the first and second stages. A pronounced tendon-jerk, capable of excessive re-enforcement, is sometimes seen in the earliest stages of locomotor ataxia. Wounding of the muscle at the point struck sometimes occurs in stages four and five, occasionally even in three. The authors, for the purpose of their study, have divided the course of locomotor ataxia into six stages. A new symptom—distinct prominence of the eyes, with a full appearance of the surrounding tissues not due to œdema—was found six times, chiefly in cases of long duration.

Temporary Paralysis of the Radial Nerve in the Initial Stage of Locomotor Ataxia.—Professor A Strümpell ("Berl. klin. Woch.," 1886, No. 37) reports an interesting case of this nature. Briefly the history of the case is as follows: B., aged fifty-five, a waiter, was suddenly seized with paralysis of the left hand. On a Sunday afternoon he was reading a newspaper which he held in his left hand; all of a sudden the paper dropped from his hand, and he then learned that he had lost power in it. He had never experienced any pains or abnormal sensations. On examination, it was found that all the muscles supplied by the radial nerve were paralyzed, the sensibility of the forearm and hand was intact, and the electrical excitability of the paralyzed muscles, with both currents, was quite normal. The author found some difficulty in accounting for the paralysis; the most plausible theory was that it was due to alcohol, but its sudden appearance and the absence of pains and other signs of alcoholism strongly opposed that theory. On further examination, however, it was found that the patient had the Argyll-Robertson pupil, the sensibility of the feet and legs was somewhat diminished, and there was absence of the knee-jerk on both sides. On repeated questioning, the patient confessed to having had for some time past "tearing pains" in the legs and a weakness of the bladder. A history of syphilis could not be obtained. Under four weeks' treatment with electricity the paralysis disappeared, without any change, however, in the other tabetic symptoms. [The case is of considerable interest as bearing upon the recent pathological researches of Pitres and Vaillard on the condition of the peripheral nerves in tabes. In our last report on General Medicine we gave an abstract of their work in this direction, and we would advise our readers to compare it with the clinical history of Strümpell's case.]

The Presence of Tubercle Bacilli in the Supra-renal Capsules in Addison's Disease.—Von Rauschenbach ("Dtsch. Med.-Ztg.," 1886, No.

52) attaches a great deal of importance to the detection of the tubercle bacillus in the supra-renal capsules in a causal relation to Addison's disease. He suggests that experiments on animals should be made in which cheesy masses or pure cultivations of the micro-organism should be introduced directly into the supra-renal capsules. Rauschenbach's discovery would be of considerable interest if the tubercle bacillus was limited to the supra-renal capsules, which is not stated.

Paralysis of the Four Extremities following Facial Erysipelas.—Professor Brieger (*ibid.*, No. 61) relates the following history: A girl, aged fifteen, suffered during convalescence from an attack of facial erysipelas with vague pains in various parts of the body, which after a time were limited to the upper part of the dorsal vertebræ, from which they radiated to the shoulders and down both arms. The pain was of a lancinating character and occurred in paroxysms of short duration. In three months and a half after the erysipelas, when the attacks of pain were severest, complete paralysis of the right arm set in. In three days afterward the left arm became affected, then the right leg, and a day later the left leg became similarly involved. The paralysis was attended with abnormal sensations and increased tendon reflexes. Finally the muscles of the neck and bladder were attacked with paralysis, while the abdominal muscles remained intact. The electrical excitability did not undergo any change, and the sensibility, particularly of the lower extremities, was markedly diminished. At the same time atrophy of the muscles on the right side rapidly developed. The author thinks that the palsy could not be attributed to a peripheral neuritis, inasmuch as the faradaic and galvanic excitability of the muscles remained normal. It was more probably due to gross changes in the spinal cord. The nature of this can only be conjectured as a local accumulation of erysipelas cocci (*Erysipelkokken*) in the cord. Certainly the pathological changes could not have been very serious, as the paralysis entirely disappeared under the use of the constant current and the employment of iron and iodide of potassium. [We can not agree with the author that the state of the electrical excitability entirely excluded peripheral neuritis. The development of the atrophy, on the other hand, especially as it was limited to the one side, makes the case a puzzling one.]

Miscellany.

Climate and Health in North Dakota.—In no part of the Union can a man with moderate capital, or with only his energy and strong arms for a beginning, so soon secure a competency as in the Northwest. Of course, there are incidents and variations of fortune here, as elsewhere. But the basis of general prosperity is the natural character of a country, its productions, its climate, and its soil. There are drawbacks in North Dakota as elsewhere, but the great factors which make human existence possible and favor a dense population—those of ability to produce human food, both animal and vegetable, and climatic influence on longevity, or length of life—the Red River valley and North Dakota possess to a greater extent than any part of the continent. . . . The climate of North Dakota in winter, bright, dry, and cold, is exceedingly pleasant, and its only effect is to stimulate activity in business and the ordinary avocations of life. Though it is cold, the absence of humidity, as indicated by the Signal-Service records, causes the cold to be unnoticed and unfelt to the degree noted in the humid South and East. . . . Dakota and Minnesota, north of latitude 45°, are the only regions east of the Rocky Mountains where there is no appreciable increase of deaths in the summer. . . . The heat of summer in North Dakota, averaging 64°, bears a closer relation to that of the most prosperous and densely populated sections of the Old World—Great Britain, Northern France, Belgium, and North Germany—than in any other part of the United States. In England the summer temperature will average 61°; in Scotland, 57°; in Belgium, 62°; and in North Germany, 63°. It is in these European countries that the best horses, cattle, and sheep, wheat, oats, barley, and roots are grown. *It is too cold for Indian corn.* In southern Europe the average summer temperature rises to 68° and above, and the corn belt begins, but no one thinks of going there to buy the Norman, Percheron, or Clydesdale horse. No one thinks of buying the Short Horn, Hereford, Devon, or "Doddie" in sunny Italy. It's too warm; they don't grow there; yet Italy is cooler in summer than our "corn belt." The Red River valley, with its black soil, full of "phosphates" and "alkalies," would not produce the famous No. 1 hard wheat, oats, flax, rye, barley, and other small grains, of such fine quality and in such quantities, if its summer averaged 67° instead of 64°. The summer isotherm of 67° inevitably limits the growth of that famous grade, No. 1 hard Fife, to the country north of latitude 45° 50′.—*St. Paul Globe.*

The late Dr. Francis M. Purroy.—At a meeting of the Board of Surgeons of the Police Department of the City of New York, held December 20, 1886, the following resolutions were adopted:

Whereas, It has pleased Almighty God to remove by death one of our number, Francis M. Purroy, M. D.,

Resolved, That the members of the Board of Surgeons of the Police Department of the City of New York hereby express their sincere sorrow for the loss of Dr. Purroy. He was genial in his manner, kind and considerate toward all with whom he came in contact. This board feels that in his early death it has lost a much respected and most valuable member.

Resolved, That this board most respectfully tender to the family of Dr. Purroy this expression of their profound sympathy.

Resolved, That a copy of these resolutions be sent to the family of the deceased, and that they be furnished to the medical journals of the city for publication.

[Signed.] Charles H. Phelps, M. D., *President.*
John H. Nesbitt, M. D., *Secretary.*

Mariani's Coca Wine.—Surgeon-Major H. Liebermann, of Paris ("New York Med. Monthly"), speaks of his success, in a long military career, in treating tropical anæmia with this preparation, and adds that he has also employed it in those cases of chronic alcoholism, fortunately rare in the French army, which follow the abuse of absinthe and strong liquors. While producing primarily a certain amount of cerebral stimulation, it exercised a predominant sedative effect upon the nervous system. He has, moreover, witnessed the spectacle of hardened drunkards giving up their pernicious habits and returning to a normal condition under the influence of this treatment. He has employed it successfully in the treatment of the tobacco habit. A few glasses, taken in small swallows or mixed with water, were sufficient to replace both pipes and cigars, since the patients obtained the cerebral stimulation which they sought for, albeit unconsciously. In chronic bronchitis, and even in pulmonary phthisis, it augments the appetite and diminishes the cough. When combating the cough, he has given it mixed with water, a wineglass of the wine to a tumbler of spring water. Finally, he has employed it in the convalescence following typhoid fever with the greatest success, and this in cases where the irritability of the stomach was so great that no wine, not even Bordeaux, could be tolerated.

The New York Ophthalmic and Aural Institute.—According to the Seventeenth Annual Report, 6,704 new patients were treated during the year ending September 30, 1886; 5,346 in the department for diseases of the eye (5,018 as out-patients and 328 in the house) and 1,358 in the departments for diseases of the ear, nose, and throat (1,354 as out-patients and 4 in the house).

The Value of an Eye.—A woman who fell into an unguarded excavation two years ago, and as a result lost one of her eyes, sued a town for damages, and a verdict for $10,000 was rendered. The town appealed the case, and on a second trial the damages were increased to $12,000. This was also appealed, but, by a recent decision of the Supreme Court, the verdict was sustained and $500 were added for the woman's counsel.

The Northwestern Medical and Surgical Society elected officers as follows at its recent annual meeting: President, Dr. A. R. Robinson; vice-president, Dr. R. C. M. Page; secretary, Dr. E. S. Peck.

Laryngology at the College of Physicians and Surgeons.—The twelfth lecture of Dr. Lefferts's current course, to be given on Tuesday, the 4th inst., will be devoted to syphilitic diseases of the throat.

THE NEW YORK MEDICAL JOURNAL, JANUARY 8, 1887.

Original Communications.

ROCKY MOUNTAIN FEVER.*

By ROLAND G. CURTIN, M. D.,
PHILADELPHIA.

At a meeting of the Philadelphia Committee of Arrangements of the American Climatological Association it was concluded desirable to have an article on "Rocky Mountain Fever."

Accordingly, a physician was invited to prepare a paper on the subject. At a second meeting, a short time ago, the gentleman who had been so invited was reported as having desired to be excused from compliance with the request of the committee.

The president, knowing that I had had a slight experience with this disease, asked me to lay it before the association, together with other material that was promised from persons living in the Rocky Mountain region. Several letters were written to physicians settled in that locality, with indifferent success. One of those written to had died (as was reported by his relatives). Another had removed, and his whereabouts could not be ascertained. A third had never seen but two cases. Three failed altogether to reply. Two promised information which has not as yet been received. The only reply bringing with it anything of satisfaction was from Dr. Dougan, of Colorado. It seems fitting to make this statement, by way of premise, as an apology for any disappointment which our perhaps meager paper may occasion. If any additional data should be received at any future time, they will be very gladly presented to the society.

I will now read the paper furnished by Dr. Dougan, after which I will add information gathered from others, following which I will give my own very slight experience in this disease:

The term mountain fever has, by long-continued and frequent use, almost established itself in the nomenclature of disease in the mountain districts of the West. Whether or not its use is proper as designating a separate and distinct type of fever, a pathological entity, may well be questioned. A somewhat extensive acquaintance with the physicians of Colorado warrants the statement that many of them believe that we have in our high altitude a fever not described in the text books, and to which this designation is applicable; while another and perhaps larger portion of the medical profession of the State decline to admit that such is the case. The experience of the writer, based on a practice of two years in the mountains, induces him to class himself with those who regard cases of mountain fever (so called) as belonging to one or another of the well-known and already classified varieties.

The fact must be admitted, however, if we accept the latter view, that the cases present variations, and often wide variations, from the usual course of the fevers to which we would assign them, and it is because of this departure from the course of recognized types that many practitioners have decided to accept the idea of a new variety.

And yet it is not necessary, because the phenomena observed in a case, or series of cases, differ from the phenomena which we usually regard as characteristic of a given form of fever, to decide that we have a new variety to deal with. It is a well-known fact that the general symptomatology of fevers may be modified by environment, and that names may be given them suggested by locality; hence we have the swamp fever of the South, the Panama fever of the isthmus, and the coast fever of Africa, all of which are accepted malarial fevers modified by the conditions existing in the localities where they are found.

Not a few of the cases that are sometimes called mountain fever are ephemeral in character and difficult of classification; but the fever that is recognized as peculiarly entitled to this designation, by those who believe it a proper term, presents many claims to be designated as typhoid, modified, it is true, by causes and conditions peculiar to its surroundings.

It is freely admitted that this assumption is open to argument, that the position is not sufficiently established to justify dogmatism; but, as it is desirable that the truth should be arrived at, reasons will be offered in support of this view, and no doubt we shall have the opposite side of the question presented in due time.

At the introduction of the discussion we encounter an embarrassment from the fact that there is no accepted description of the clinical history of mountain fever, and that different observers fail in an exact agreement as to its successive phenomena, but the following will no doubt be taken as a fair presentation of the symptoms observed in an average case.

At first we are informed that the patient has become suddenly ill, but a little inquiry usually elicits the fact that he had not been quite so well as usual for a few days. A chill may or may not have announced the commencement of the illness. The temperature is usually 101° or 102° F. at the apparent onset. Sometimes it may be found as high as 104°, and not infrequently it remains nearly stationary until the approach of convalescence, being without the progressive daily increase and characteristic daily remissions usual in typhoid. There is absence of appetite without nausea, the tongue is not dry and but slightly furred, sometimes remaining nearly natural throughout the illness. The bowels are usually constipated, and require an occasional laxative. The skin is dry, but without other peculiarities. While the temperature does not exhibit diurnal changes, it may in some instances fall suddenly one or two degrees, remain at the lower point one or more days, and then as suddenly rise to its former elevation, or the diminution may be permanent, and the further course of the disease be upon the lower temperature level, and this without reference to the therapeutic measures that may have been employed; in fact, quinine in large doses, thirty grains or more, seems powerless to even modify the temperature. Delirium may occur, but is not usual, and the patient rarely suffers from loss of sleep. The course of the disease is comparatively short—from one to two weeks—but it does not appear to end on the expiration of any definite number of days; the tendency is always toward recovery. The simplest treatment is sufficient, nourishment being of most importance. The absence of fatal cases prevents a knowledge of the condition of the intestinal tract, and if any alteration of the Peyerian glands occurs it probably does not advance to ulceration.

Among the reasons for believing the above-described cases to be mild and irregular developments of typhoid are the following:

1. Such cases are usually seen during the season of the year when typhoid is most prevalent—viz., from July to November.

2. They are most apt to occur under conditions favorable to typhoid, such as crowded and badly ventilated sleeping apart-

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* Read before the American Climatological Association at its third annual meeting.

ments, proximity of decomposing organic matter, impure water, defective drainage, and general disregard of sanitary requirements, conditions that too often may be found in the West as well as elsewhere.

3. Not infrequently a case commencing as above described will, before its conclusion, present some feature so characteristic of typhoid as to leave no doubt of its nature, such as spots of roseola, diarrhœa, or tympanites.

4. In the high altitudes where mountain fever is said to occur, a large proportion of the cases of undoubted typhoid pursue a remarkably mild course, and cases of "walking typhoid" are not rare. From this we may assume that the climatic conditions here existing are sufficient to moderate the intensity of the disease, and we are perhaps justified by this observation in believing that the same conditions may in other respects modify the phases of its development.

The conditions herein referred to as having a modifying influence on typhoid fever are the purity, dryness, and coolness of the atmosphere. It is hardly necessary to enter into a discussion as to whether such conditions can affect the course of disease; if heat and moisture favor the development of disease-germs, the opposite condition may be presumed to retard it; and, even though these causes may be inoperative within the body, they may so impress the prehuman or extra-human life of germs as to alter the usual developmental processes that they undergo within the human organism. As a matter of fact we do not see this modifying effect of atmospheric conditions in our observations of other diseases. It is not maintained that all the effect of atmospheric conditions as related to fevers is exerted on the disease-germs. The entire condition of the patient may be modified by the same causes; respiration, circulation, digestion, nutrition, and the condition of the nervous system, may all be more or less influenced by the peculiarities of the atmosphere, and each contribute toward the clinical history of a case.

If by the term mountain fever we understand simply that we hereby indicate mild cases of typhoid occurring in the mountain districts, the use of the term, while unscientific and objectionable, may still be tolerated as satisfactory, especially to the laity; but if it is to be understood as designating a specific disease, let us wait for clinical and pathological proofs before admitting it into the literature of the profession.

D. H. Dougan, M. D.

322 Storet Street, Denver, Col.

In looking over the scanty literature on the subject, I have found in print the following allusions to the subject under consideration:

Dr. Charles Smart, of the U. S. Army, in an extensive article upon "'Mountain Fever' and Malarious Waters," in the "American Journal of the Medical Sciences" for January, 1878, arrives at the conclusion that the "camp fever" of our civil war and the "mountain fever" bear a striking resemblance to one another, and considers the latter to be a mixture of malarial and typhoid fever poisons.

Dr. Hall, of the U. S. Army, in an article in the January number of the "American Journal of the Medical Sciences" for 1880, entitled "Typho-malarial Fever, the so-called 'Mountain Fever' of the Rocky Mountains," gives a careful account of many cases observed by him, and furnishes the following deductions:

1. The fever of the Rocky Mountain region is a hybrid disease, the prominent features of which are typhoid—the modifying, intermittent; is, in fact, the typho-malarial fever of Woodward.

2. It appears during or after the exposure incident to field-service, generally, though not necessarily, in late summer and early autumn, and seems to bear no relation to typhoid infection, as now usually accepted by the profession.

3. At its inception, this disease manifests itself as an intermittent of quotidian, tertian, or other form; this stage is followed (in about two weeks) by the typhoid stage, lasting in the neighborhood of four weeks, in which typical typhoid symptoms may be observed, modified to a greater or less degree by intermittent indications.

4. The pathological anatomy of the disease is that of typhoid fever.

5. The treatment should be antiperiodic and antipyretic.

A physician who resided temporarily in Montana informed the writer that he had followed the practice of a doctor located there for the purpose of observing "mountain fever." Four cases were pointed out to him as typical cases of this disease. My informant examined them carefully, and found all the physical signs of croupous pneumonia, with the ordinary symptoms incidental to the latter disease.

In 1868, while an assistant on the U. S. Geological Exploring Expedition under Professor Hayden, while in Cheyenne City, Wyoming Territory, it was my fortune to see in a private hospital four cases diagnosticated as "mountain fever." In two of these cases the patients were "prospectors," men who had been engaged in seeking after the outcroppings of the precious metals in the fastnesses of the mountains at a great altitude, camping out along the streams, and leading a nomadic life in general. The other two were cases of persons who had been living in canvas tents while at home, and yet had often been called by business to the mountains. One of the patients died during the third week, no post-mortem being made in his case. At some period of the disease they all had more or less diarrhœa, which in one case was continuous and very marked throughout the whole course of the disease. In one case I noticed there was a doubtful "tache rouge," coming in crops and disappearing on pressure. The margin of the spots was poorly defined, and not circular in shape. (This patient recovered.) One had epistaxis at the beginning of the disease. Tympanites was more or less marked in all the cases. In conversation with the physician who had these cases in charge, and who had been established in the region for some years, he informed me that the symptoms were about the same as those observed by him in other cases called "mountain fever." To me the cases appeared to be of typhoid fever or typho-malarial fever.

We will now proceed to study the salient points of the information laid before us.

In Dr. Dougan's paper he informs us that the temperature is usually 101° to 102° at the commencement of the attack, and that not infrequently it remains nearly stationary until the approach of convalescence, being without the progressive daily increase and characteristic daily remissions usual in typhoid and (I might add) remittent fever.

Absence of appetite without nausea is, according to the doctor, another symptom.

A constipated condition of the bowels was also noted by him. He also observes that the course is comparatively short—from one to two weeks.

No dryness of the tongue was ever observed by the doctor in any of his cases.

The tendency was always toward recovery.

The symptoms given by Dr. Dougan in some respects seem to tally with those given as of simple continued fever.

With regard to the mortality, as before stated, Dr. Dougan observes that he never had a fatal case, while the physician with whom I conversed in Cheyenne City informed me that one out of every eight or ten died.

I have conversed with several shrewd and competent physicians on the subject, all of whom agree with Dr. Dougan that the "Rocky Mountain fever" is not a separate and distinct disease, but that it is fever of other well-known forms, modified perhaps by climatic influences.

It seems to me that the following causes may have led to the assumption that there is a febrile affection peculiar to the Rocky Mountains:

Inaccurate observation may have led to errors in diagnosis. In the early history of the Rocky Mountain region the class of physicians there located perhaps included many who were probably unable, from habit and limited education, to observe with that degree of closeness which is requisite at all times for a proper diagnosis. I make this statement because the cases coming under my notice were either of typhoid fever or typho-malarial fever. A physician in Montana mistook croupous pneumonia for "mountain fever." Another influence probably at work was fashion. We have fashions in medicine in various directions. It shapes our stethoscopes, it changes our treatment, and why may it not also change the names of diseases? In our own midst we have an example of this. Almost every infant or young child in Philadelphia that dies of bowel trouble is reported as having died of cholera infantum; entero-colitis, diarrhœa of dentition, summer diarrhœa, and other fatal diarrhœas are often grouped under this head. This fact is the occasion of surprise and remark among the profession abroad at the frequency of cholera infantum in this country, presenting a strong contrast to the comparative rarity of the disease among them. Thus it would appear with all febrile affections in the Rocky Mountain region. They seem to have been grouped under the head of "mountain fever." The peculiarities of climate may have had some effect on them, making the different varieties appear somewhat alike to the superficial observer.

I will now give you a brief account of the impressions made upon my mind as to the climatic and other influences at work in the Rocky Mountain region. These conditions which might modify disease suggested themselves to me during my brief sojourn there:

1. *The altitude*, which lowers the temperature and rarefies the atmosphere.

2. *The purity and dryness of the air.*

One of the prominent local features of a large part of the Rocky Mountain region, and a factor liable to modify disease, is the alkaline condition of the earth's surface. The granite and other rocks found at the summit of the mountains decompose easily, and, when they break down, the salts of calcium, sodium, and magnesium are liberated and spread over the surface. The soil is often seen with an efflorescence of these salts on the surface, sometimes giving it a whiteness resembling snow. It is also seen on the margins of the ponds and lakes. The streams are often so bitter that it is impossible to drink from them, and streams less affected will often cause a diarrhœa. This condition of the water might produce a diarrhœa in a malarial fever, or simple continued fever. When the wind blows, the sand and dust, impregnated with the alkalies, are set in motion. Of course this causes great irritation to the air-passages, and renders the atmosphere unfavorable for those afflicted with throat and lung diseases. This condition of the air might in a fever patient occasion a cough similar to that usual in typhoid fever.

The water usually found is that of the streams running down from the melting snow at the summit of the mountains. This scarcity of water has a tendency to make travelers and "campers out" careless about bathing, as indeed, also, the temperature of the water itself, which is apt to be too low to admit of bathing with comfort and safety.

This condition of affairs, occasioning personal uncleanness in connection with the excessive fatigue incident to the life and habits of the early mountaineers, doubtless rendered them susceptible to simple continued fever. In camping in that region, it is usually along the streams, so that water can be readily secured; this again favors the imbibition of malarial poison.

A fever called the "mountain sickness" is said to prevail in the Andes, in South America; and a fever has also been reported among the Himalayas, the highest mountains in the world.

To sum up, first, it would appear that in the Rocky Mountain region almost every disease with a febrile reaction has been called "mountain fever." Secondly, proof is wanting that there is a separate and distinct disease peculiar to that region.

22 SOUTH EIGHTEENTH STREET, PHILADELPHIA.

The following letter will explain itself:

FORT BENTON, MONTANA, *June 10, 1886.*

Dr. Roland G. Curtin:

DEAR DOCTOR: My excuse as a stranger for addressing you is the great pleasure your paper on "Mountain Fever," read before the American Climatological Association, gave me. I have been a resident practitioner in Montana since 1879, and during that time I have not seen a case of fever different from the "already classified varieties." I have been criticised for even doubting it, and saying, if such a type existed, it had escaped my observation. As I said, your paper gave me great pleasure, and I hope you will not consider me intrusive for expressing it.

Very respectfully,

F. ATKISSON.

DOUBLE OPTIC NEURITIS AND MÉNIÈRE'S DISEASE.*

BY THOMAS R. POOLEY, M. D.

THE almost simultaneous occurrence of neuro-retinitis and labyrinthine disease affecting both eyes and both ears must certainly be very rare, and can but give rise to the opportunity for much speculation as to its cause. The case which I am about to relate somewhat in detail I saw in consultation with Dr. Helm, of Sing Sing, N. Y., on May 22, 1886, and he has kindly furnished me with very full notes of it, to which I will add my own account of the case when seen in consultation with the doctor.

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* Read before the Section in Ophthalmology and Otology of the New York Academy of Medicine, November 15, 1886.

F. N. L., aged forty-three; for the past two years his wife has noticed that when he was very tired he looked dark and swollen under the eyes, and after he was washed and had rested would look very white under the eyes. For a year or eighteen months he would occasionally complain of pain in the top of the head, particularly in hot weather; two or three weeks last winter he had a severe cough, which stopped entirely when an attack of dysentery came on; last April he breathed very heavily in his sleep, not snoring, but in a labored way, as if he were tired. For over a year he has had spells of being obliged to get up once or twice in the night to pass water, which would sometimes be light-colored and have a heavy deposit. About seven years ago he passed two small calculi, at six months' intervals, but never has passed any since. During the past two years he has had spells of diarrhœa, sometimes passing blood, with a good deal of dyspepsia and nausea, but seldom vomiting. Irascible and easily excited. There is no history of syphilis; both his parents are still living, his father being eighty years old and his mother seventy-eight. There is no family history of any significance. When Dr. Helm saw him—April 12th—he found him suffering from dysentery. He had pains in his limbs, severe malaise, and fever, tongue furred and dry, with frequent bloody stools. He had been very much overworked, and had not allowed himself time for proper meals. For the past six months his vision had been failing. He had also had for about the same time a variety of noises in the left ear and severe pain in the left half of the head. Dr. Helm visited him daily until the 19th of April, during which time he steadily improved. The treatment was directed to his symptoms and rest was enjoined. From this time nothing more was heard from him until the 29th, when the doctor was sent for, and found he had gone to work on the 20th, and been at it ever since. He is a blacksmith, and his shop is a mile or more from his house. On his way home he was taken with vertigo and had to stop a number of times on the way. On reaching home, he threw himself on the lounge, unable to turn his head without causing the most intense vertigo. When the doctor saw him he was lying on his back, and by keeping strictly in that position he could obtain a slight relief from the vertigo. Turning on his right side made everything go flying, but if he turned on his left side with his face to the wall the vertigo was unbearable. He was entirely free from pain; temperature normal. The noises in the left ear resembled steam whistles or fog-horns. A scanty sample of urine showed no albumin; not enough obtained to get its specific gravity; very cloudy, but on boiling became perfectly clear. His condition continued very much the same, except that he could turn on either side without causing such excessive dizziness, till Wednesday, May 5th, when he was excessively deaf in both ears. He could make out a few words when shouted into the ears. On the 6th of May he was absolutely deaf in both ears. Temperature, taken several times, at intervals, was always found to be normal. Several examinations of the urine failed to find either albumin or sugar. Its specific gravity was 1·015. Bowels perfectly regular. Generally sleeps well. Has occasional attacks of despondency, and such attacks are usually followed by insomnia and restlessness, which are, however, readily controlled by bromides. Since he became deaf the noises in his ears have comparatively ceased "like a blank." On the 14th of May complained of some pain in the back of the head above the nape of the neck. On the 15th the pain had disappeared and the dizziness was much improved, but his locomotion was, as he expressed it, of the four-legged kind, and accomplished by holding two canes well out before him in a death grip and making very slow and careful movement of each cane and foot. During the whole time his intellect remains perfectly clear. Says he can think as clearly as ever he could. Talks in a slow, labored, and loud tone of voice. Reads very large and distinct writing, which is the only way he can be communicated with, with some difficulty, and some days better than others. His appetite is excellent and his digestion good—better, he thinks, than it has been for years. The first day or two after the onset of the vertigo his appetite was poor and he vomited anything he took; this was the only occasion of any nausea or vomiting. May 17th and 18th he spent the entire day out of doors in a wheeled chair.

He was given quinine, six grains in the evening and six the next morning, and in the afternoon of the 19th he was worse; complained of a return of the noises and dizziness; also had some pain in the back of the head. On the 21st he complains a good deal of the ringing in his ears. Says he passes a good deal of water, and the call to do so is urgent. Eyesight and hearing about the same. On the afternoon of May 22d I saw the patient with Dr. Helm, and made a careful examination of both his eyes and ears. In regard to his general condition, I can add but little to the careful account given by Dr. Helm. It was exceedingly difficult to communicate with the patient, which could only be done by writing in a large, bold hand. He was seated in a wheel-chair in the yard when I arrived, and when the chair was wheeled into the house it was a difficult matter to place him in a chair to examine his eyes to better advantage, his vertigo was so great. His method of progression, which I witnessed, is, perhaps, as well described by what has been said as possible, but the awkwardness of it must have been seen to be fully appreciated. Ophthalmoscopic examination of his eyes showed an intense neuro-retinitis of both. There were swelling of the optic discs, venous hyperæmia, numerous hæmorrhages, both small petechial and larger longitudinal ones, scattered over the fundus. Large white patches in the retina, which extended nearly to the periphery and in the region of the macula lutea, assumed the peculiar stellate arrangement which is characteristic of Bright's disease. In short, the picture was the usual one seen in this disease. There was so little difference in the ophthalmoscopic picture of the eyes as to render it unnecessary to describe them alone.

A very careful inspection of the ears showed no evidence of any middle-ear disease. The membrana tympani of each was fully healthy, and showed no evidence of chronic disease. The patient was absolutely deaf to all forms of noises. I did not have a tuning-fork with me, but am sure that, if I had, bone-conduction would have been found abolished as well. I expressed, both to the doctor and to the family, a hopeless prognosis for hearing, but little hope of much improvement in sight, and the belief that the case would soon have a lethal termination. I also expressed my opinion that both the deafness and impairment of sight were due to Bright's disease, although no positive evidences of any disease of the kidneys had been found by the examination of the urine. I may add here that I examined a specimen of urine myself, which I brought home with me, chemically, and also had an expert examine for casts with the microscope, but neither casts nor albumin were found. Dr. Helm also assures me that to the day of his death the urine never gave any testimony to corroborate this view, which I nevertheless believe to be the correct one. Dr. Helm kindly kept me informed of the further progress of the case until the time of the man's death, which I will briefly give.

May 23d.—Excessive urination; has to get up two or three times in the night to pass urine. This has only been the last three days and nights. Inclination to diarrhœa; sleeps well; appetite good. Says that while sitting by an open window last night after twilight, he could see everything as plainly as ever he could. Dizziness and roaring about the same.

26th.—Feels better; dizziness improving; noises lessened; less desire to urinate often; feels rather better.

28th.—Dizziness still better, and sees better with right eye. Intermission of the noises; less diarrhœa.

31st.—Had an excellent night; appetite, too, good. Bowels and urine all right now. Says that yesterday afternoon a spot of about three inches in diameter on the top of his head felt very hot, while all the rest of his body was cool, at which time, too, the noises were the worst. Examined his urine, with negative result; other symptoms the same.

June 3d.—Can now stand up and manage to dress himself, and does not feel the dizziness in either the erect or recumbent posture. Noises about the same; made worse by thinking or talking. Can handle himself much better in the dark; for instance, can stand straight up, use the chamber, and button up his drawers at night without laying hold of anything.

7th.—Dizziness about the same, but noises almost gone. Has difficulty in breathing at night, which lasts until he gets asleep. Examination of the urine again on the 7th; failed to show any signs of albumin. Similar negative result on the 11th.

14th.—There was an access of the dizziness. Now walks with crutches, which he finds a great improvement on his former mode of locomotion. His face was a little bloated and his eyelids were puffy, which may have been produced by arsenic administered for some days before. There was no material change in his condition until June 28th, when the doctor's notes report a decided improvement in every respect—diminution of dizziness and noises, better locomotion, and better general health—as shown by the fact that he complained of two old infirmities, hernia and piles.

July 7th.—He complained for the first time to the doctor of soreness of his flesh, which, however, he said he had had ever since the onset of his attack, although he had not mentioned it before. Dizziness better. He walked half across the room and back again to show how well he could do it, without his cane or crutches. He also took an article off the table, put it on the floor, and picked it up again without laying hold of anything for support. In the act of walking he stood still for a few moments, as if to steady himself before starting. His gait was then erect, and without much staggering. His spirits were much improved, and he entertained hope of recovery. The day following he said he heard his daughter drop a spoon on a plate, and also heard his wife pronounce his name—that is, he recognized it was a word of two syllables, though he could not tell what the word was. The doctor, to test his hearing, blew on a whistle which he carried in his pocket, and he heard it distinctly; all these sounds he heard with his left ear—the one first affected. Heard nothing at all with the right ear. Dizziness and sight rather worse. Urine again examined, with negative result.

12th.—Feels better. Has been out to drive. Says he hears sounds with his left ear better than at last record.

On July 19th Dr. Helm found him suffering from great pain in his right side. There was considerable swelling extending from the spine all the way around to the middle of the sternum and from the top to the bottom of the thorax; greatest just below and behind the axilla. The whole area of swelling was painful to the touch. This swelling began to appear on the 15th, after driving a refractory horse himself in a cart, and whipping it a good deal, but did not give him great inconvenience or pain until the date above mentioned. Temperature 99·5°. On the 21st swelling more circumscribed; pain severe. Temperature 99·75°. Breathing troubled; diarrhœa. Hypodermic of ♏ x of Magendie. July 22d, easier since morphine; swelling increased, but less sensitive. Temperature 99°; pulse 90, full and tense. A large hypodermic needle thrust into the swelling failed to draw off any fluid; aspiration was then tried with similar result, but an opening made with a lancet drew off about a pint of broken-down blood-clots and semi-fluid blood. This operation was done about 3.30 P. M., and he died about 2 A. M., July 23d. Dr. Helm, at my request, telegraphed me to attend the post-mortem, as he also did Dr. Seguin; but, unfortunately, neither of us could go. An examination was, however, made by Dr. Helm and Dr. Husted, which, I regret to say, throws but little if any light on the case. It was my intention to examine not only the brain, but the inner ear. Only the brain and kidneys were examined. Both kidneys were somewhat congested; one was rather larger than normal, and looked, on superficial examination, as if the cortical portion was relatively somewhat increased and the Malpighian corpuscles were engorged. The brain was decidedly soft—so much so that, in taking it out of the skull, the cerebrum became detached and dropped out on the table before it could be caught. Cerebellum normal. No tumor, extravasation, or exudation was found. The side on which the incision had been made was not examined, as it was filled with clotted blood already beginning to decompose, and the entire body was, owing to the heat, in a bad state of preservation.

I have been thus minute in the description of this case, even at the risk of being tedious, in order that, from an analysis of the symptoms, we might be the better able to judge of the ætiology of the case.

The almost sudden onset of deafness in this case, under the chain of symptoms commonly known as Ménière's disease, with the co-existence of a neuro-retinitis such as we often see in Bright's disease, is certainly very interesting. When hearing is lost under apoplectic symptoms in a previously healthy person, and these symptoms subside, leaving the patient deaf, the seat of the disease is in the cavity of the labyrinth, and its pathology is probably hæmorrhagic extravasation or serous effusion. In a careful and elaborate paper entitled "A Clinical Analysis of the Inflammatory Affections of the Inner Ear," Dr. H. Knapp ("Archives of Ophthalmology," vol. iv) concludes that Ménière's disease may be either a primary or a secondary affection of the labyrinth. The former is to be assumed when in a previously healthy person the symptoms on the part of the labyrinth—tinnitus, contraction of the field of audition, and hardness of hearing—are prominent and persistent. While the general symptoms—headache, paleness of the face, fainting, obscuration of the visual field, vertigo, nausea, vomiting, and disturbances of equilibrium—can not be referred to actual disease of the brain or the constitution, and are transitory, Ménière's disease may be secondary to affections of the tympanum, the brain, or the general system. In his careful analysis Knapp has reported typical cases of this kind. In cerebro-spinal meningitis deafness is due to purulent otitis interna, a complication, perhaps a metastasis, of the purulent inflammation of the meninges, in the same way that purulent chorioiditis occurs, and neuro-retinitis as well.

Among the general diseases which may produce deafness Knapp enumerates syphilis, severe fevers like typhus and typhoid, acute exanthemata, variola, scarlatina, rubeola, infantile convulsions, pustular and eczematous eruptions about the head, mumps, angina Ludovici, and sunstroke. I do not, however, find in his category mention of Bright's disease, which from this observation may fairly be added to the list. The general history of the case which I have given shows, I think, the subjective symptoms of Bright's disease from its very beginning, and from the symptoms elicited by careful questions before the attack which just preceded the deafness. These were pain in the head, occasional coughs, recurring diarrhœas, frequent desires to urinate, the passage of urinary calculi, dyspepsia, and irascibility of temper. All of the above-enumerated ones, with the addition of nausea and failure of sight and hearing, occurred after the patient came under our notice. When with such a history there is almost sudden loss of hearing, first in one ear and then the other, with a typical Bright's retinitis, I think we may fairly assume that there was either an exudation or extravasation of blood—most probably the latter—into the entire labyrinthine cavity of each side. The manner of death, which was evidently caused by hæmorrhage into the pleural cavity, together with the well-known tendency to its occurrence in the eye and elsewhere in Bright's disease, suggests this rather than an inflammatory product. The entire absence of any other symptom of brain disease than those enumerated precludes, as does, too, the unsatisfactory post-mortem, the idea of brain disease and metastasis to each eye and ear. We have, too, the evidence of the post-mortem that the gross appearances of the kidneys pointed to their being the seat of disease. The one link in the chain of evidence to make the diagnosis certain, the detection of albumin or casts in the urine, was persistently wanting; but it falls within my own experience as well as that of others to have seen cases where this evidence was wanting for a long time, and even all through the course of the disease.

The occurrence of the eye disease at the same time with the ear affection has its analogy in the co-existence of deafness from syphilis with eye affections, such as iritis and affections of the cornea and fundus, where deafness has suddenly occurred under symptoms of Ménière's disease. In bringing this case before the section I have hoped to elicit discussion, especially upon the frequency of the occurrence of disease of the inner ear in various constitutional affections, and particularly as to whether any observer has noticed the occurrence of sudden deafness in Bright's disease.

THE PATHOLOGY OF THE LYMPHATIC GLANDS IN CHILDREN.*

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The lymphatic, or second circulation, as it has been sometimes called, is exceedingly active in young life—much more so than in adult years. The processes of digestion, assimilation, and elimination, being carried on with such activity in the young, compel a corresponding activity in all the processes contributing to these, of which the lymphatic circulation plays a most important part. The lymphatic glands are relatively larger in children than in those of mature years, and are much more active, and the quantity of lymph circulating is absolutely larger. The great size of the thymus gland and thyreoid body in infancy, as compared with adult life, is well known. The spleen only, forming an exception to the general rule, though growing very rapidly in infancy, is smaller, both absolutely and relatively, in the young than in the old. The lymphatic system, therefore, being prominent in the young, is especially liable to disease; and lymphatic disease, with some notable exceptions, is a disease of infancy and childhood. The functions of the lymphatic system being, in part at least, to aid in nutrition by the production of leucocytes, and by the depuration of the tissues, it would seem *a priori* that lesions of this part of the economy would show themselves by vitiated nutrition, wasting diseases, general anæmia, and atrophy, and such, indeed, is the case.

The general lymphatic system consists of the lymphatic vessels and certain glandular bodies scattered more or less thickly throughout the body. The office of the lymphatic vessels being to carry the lymph, which may be designated as "blood minus the red corpuscles," into the general circulation, these vessels are composed, like arteries and veins, of three coats—an internal epithelial, a middle muscular, and an external areolar fibrous. They are also provided with valves, like the veins. They originate in several ways, one mode of origin being by a plexiform network in the subcutaneous and submucous tissues. They also arise from closed extremities, as in the lacteals of the digestive tract. Again, the lymph sinuses or tracts in the lymphatic glands, and the lymphoid tissue found in various organs of the body, serve as modes of origin, and finally they arise from openings or stomata between the epithelial cells of serous cavities, whereby these cavities communicate directly with the lymphatic system, and may be regarded as closed lymph-sacs. The lymphatic vessels entering the lymphatic glands are called afferent, and are usually several in number. The vessels leaving the glands are called efferent, and number but one or two. The lymphatic glands are composed of a fibrous capsule, from which a framework of trabeculæ, or processes, proceeds inward, dividing the gland into open spaces called alveoli, which communicate freely with each other. A large quantity of retiform tissue fills these alveoli, and numerous blood-vessels run along the trabeculæ. The alveoli are filled with retiform tissue or gland-pulp, the external part, called cortical, being light in color, while the interior or medullary is dark. In the cortical portion the retiform tissue is arranged in the form of nodules, from which rods or tubes proceed, interlacing with each other in a very minute network, forming by this arrangement the medullary portion of the gland. Both the nodules and rods are attached to the trabeculæ and held in place by a delicate connective tissue. The afferent lymphatic vessels open directly into the lymph-path or lymph-channel around the nodes and rods. This investing space is continuous over both the nodules of the cortical and the tubes of the medullary portion of the gland, and the efferent vessels are continuous with it in the latter portion. It is in these spaces that the exchange of materials goes on between the blood-vessels and the lymphatics which is necessary to the further elaboration of the lymph and the multiplication of the lymph corpuscles which takes place in the gland. The course of the lymphatic circulation is the reverse of the sanguineous, being from the extremities to the central organs, and Kölliker states that at first the lymph is a mere albuminous fluid, and the chyle an albumino-fatty fluid, the cells in both cases being produced by the passage of the fluid through the glands, lymphatic or mesenteric, as the case may be, and being further elaborated in the course of the circulation.

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The most common form of disease in the lymphatic system of children is simple adenitis or gland-inflammation. In those subjects in whom it occurs unconnected with any of the diathetic or inherited diseases there are present in the glands only the ordinary phenomena of inflammation, induration, swelling, pain, etc. Resolution or suppuration may take place, and in either case there is an end of the trouble, the disease not being dangerous. It should be borne in mind, however, that young children, even though healthy and entirely untainted with either tubercle, scrofula, syphilis, or rhachitis, are exceedingly liable to the development of adenitis. Many of the ordinary diseases of children produce induration of the superficial glands, as also do cold, teething, bruises, burns, and especially the various eruptions of the skin, notably eczema of the face and scalp. Errors of diagnosis may occur in supposing children affected with eczema capitis (either acute or chronic) scrofulous, on account of the extensive enlargement and induration of the suboccipital, post-cervical, and submaxillary lymphatic glands. On the cure of the eruption, however, if the patient is not strumous, the enlarged glands will disappear; or, if suppuration takes place, it will be limited to one or two glands. In the field of observation touched upon in this article, the four great diathetic diseases of childhood—viz., syphilis, rhachitis, scrofula, and tuberculosis—offer the most marked and important changes in the lymphatic system. Space and time forbid any extended treatment of these important affections, and I shall limit myself to simply calling attention to some of the most important changes in the absorbent system wrought by the diatheses mentioned. Whether the lymphatics are primarily affected in these diseases, or become affected with other tissues in the subsequent course of the morbid changes, can not be proved, but that their perverted function soon shows itself through the system, in its own peculiar way, is readily seen. The alterations in the lymphatic glands are probably less extensive, and certainly much less dangerous, in syphilis and rhachitis than in struma and tuberculosis.

Congenital syphilis is a specific poison obtained in the child by inheritance from one or both parents. It presents the following symptoms in the infant:

Anæmia,
Atrophy,
Malnutrition, } Common to all the diathetic diseases.

Certain eruptions of the skin,
Certain lesions of the mucous membranes,
Certain diseases of the bones,
Certain affections of the glandular system, } Peculiar to this disease alone.

The poison of syphilis, as is well known, has a peculiar affinity for the glandular system, and the lymphatics, as part and parcel of this apparatus, come in for their share. In the syphilitic child, therefore, we find all the superficial lymphatic glands enlarged and indurated. The most obvious and presentable are the inguinal and post-cervical. The axillary, suboccipital, supra-condyloid, and other less important glands, however, can be felt on search—in size from a millet-seed up to that of a bean—and are noticeable for their hardness. The internal or deep-seated glands are also enlarged, and may produce some functional derangement by pressure on neighboring parts. The thymus gland is much enlarged, and frequently suppurates, though it is doubtful whether the syphilitic poison causes this change. The spleen is now regarded by the later authorities as belonging to the lymphatic glandular system, and its behavior in congenital syphilis strongly supports this view. The researches of Gee, Barlow, Hirschfeld, and others render it probable that the spleen is enlarged in nearly all cases of inherited syphilis, the degree of the hypertrophy being dependent upon the severity of the disease. The enlargement is due to simple hyperæmia, or at the most hyperplasia, no new growth or other changes taking place. It is slow, persistent, and painless, unaccompanied by inflammatory changes or any breaking down of tissue, subsiding slowly under specific treatment, and acting very much as ordinary buboes do in acquired syphilis. It may be remarked, finally, in connection with this part of the subject, and what is of importance to remember in making diagnoses, that the lymphatic glands have a harder and more indurated feeling to the touch in congenital syphilis than in the other diathetic diseases, that they disappear under specific treatment, and, finally, that they do *not tend* to suppuration.

Rhachitis, though not an inherited disease, nor, strictly speaking, a diathetic one, yet is classed among the diathetic diseases. It presents

Great weakness,
Anæmia, } Common to all diatheses.

Certain affections of the bones,
Certain affections of the glandular system, } Peculiar to this disease alone.

The lymphatic glands are all enlarged in rhachitis, notably the spleen, and are affected, according to Jenner, with albuminoid degeneration, corresponding very closely to amyloid degeneration. The induration of the glands is not very marked, they being rather soft to the feel, and not tending to suppuration. These changes in the lymphatic system of course make themselves felt in the economy, but the effect is much less marked than in the other diatheses.

The alteration of the lymphatic glands in scrofula and tuberculosis is more marked and more important in children than in any other diseases. An elaboration of these two diseases, with their pathology, would require more time than may be granted to one paper of an evening. No subject since the time of Bayle has been more extensively discussed, and in no subject has there been more conflict and fluctuation of opinion than in the matter of tubercle and scrofula. "Scrofula at one time posed as a tubercular process; tubercle at another has been described as a scrofulous process. Once more the two conditions have been quite distinct, and have even been antagonistic; and, lastly, they have been identical, with no line of separation between them. The very term tubercle has experienced a violent series of fluctuations. It has been applied to first one appearance and then to another; its limits have been terribly curtailed; vaunted specific features have one by one been removed, until it must be owned that the tubercle of to-day is but a poor, bald affair as compared with the tubercle of Laennec" ("Scrofula and Gland Diseases," Treves, p. 14). It can not be said that unanimity of opinion exists at the present day on the subject, though much light has been thrown upon it by modern observers. Strictly speaking, no accurate definition of either scrofula or tubercle can be made which shall be both clinically and pathologically correct. For these reasons I shall notice the gland changes in these two diseases under the one head, especially as they are to a large extent similar in both. Whether a lymph-gland is the subject of a deposition of tubercles or of strumous infiltration, its behavior in either case is usually the same. First, caseation takes place, then suppuration and breaking down follow, and the constitutional effects subsequent to these changes are the same in both—viz., absorption of the specific material and reproduction in other parts of the system of tubercle—gray or yellow—cheesy deposits, again breaking down of these new deposits, and finally phthisis. Indeed, the tendency of the two diseases to run into each other has often been noticed. Niemeyer states that "the danger to the strumous patient is that he may become tubercular." All authorities recognize the co-existence of the two diatheses—scrofula and tuberculosis—in the same person. In these two diatheses the superficial lymphatics are all enlarged, and can be felt under the finger in all exposed situations. The feeling of the glands is softer than in syphilis, and the tendency is to inflammation and suppuration; this is diagnostic of the affections, the grade of inflammation being low, and the tendency of the suppuration is to continue indefinitely.

The glands of the neck are the most frequently affected in struma and tubercle, and all practitioners are acquainted with these troublesome abscesses which leave such unsightly scars. A peculiarity of these inflamed glands is the frequency with which the inflammation attacks the deeper seated glands, pus being formed deep down underneath a layer of glands which have not yet suppurated, so that, on making an opening for the discharge of pus, the incision is blocked up with a cheesy mass or plug (a gland not yet having undergone suppuration), which must be pulled or dissected out before there can be a free discharge of the matter. The inflammation is of a chronic character, and tends to involve one after another of the sets of glands, frequently extending deep down into the triangles of the neck and under the clavicles, and may produce serious local trouble. Another set of lymphatic glands affected in children in struma and tuberculosis are the tonsils. Chronic enlargement of the tonsils has long been noticed in children of a scrofulous or tubercular habit. The slightest causes serve to set up inflammation of the tonsils in this class of children, and the inflammation becomes chronic and enlargement follows. So intimate is the connection between tonsillar enlargement and tuberculosis that some writers have regarded hypertrophy of the tonsils as a cause of pulmonary tuberculosis; but these are doubtless cases of cause regarded as effect.

The *deep-seated* lymphatic glands which are most affected by scrofula and tuberculosis, and whose implication involves the most serious results by inducing consumption in its various forms, are the mesenteric and the bronchial glands. The terms marasmus, tabes mesenterica, consumption of the bowels, and mesenteric phthisis are indifferently applied to that form of scrofula or tuberculosis in which the glands of the mesentery are chiefly diseased by deposit, enlargement, and degeneration. The anatomical situation of the mesenteric glands renders their enlargement alone, if very great, of danger to the child. Lying close to the lacteals and thoracic duct, their pressure on these vessels may occasion difficulty of absorption of the chyle into the system, and wasting and atrophy of the patient may result from this cause alone. Sometimes the enlargement of these glands is so great that they may be felt through the abdominal wall. As the enlargement increases and the glands begin to soften and break down, chronic diarrhœa, chronic peritonitis, perforation, and agglutination of the bowels may take place, and the patient succumbs to these. In most cases of mesenteric phthisis, however, the fatal result is hastened or accomplished by the appearance of the disease in other parts of the body, usually in the lungs. The name bronchial phthisis has been given to cases in which the bronchial glands have become infiltrated with scrofulous or tubercular deposit, and which in consequence caseate and break down. The name, however, is a misleading one, and was applied when these cases were believed to be due to tubercle alone, but, for want of a better, it has to be retained. Enlargement of the bronchial glands does not necessarily imply chronic lung disease, and cases occur in which the disease is limited to these glands and those of the mediastinum alone. These glands are situated at the bifurcation of the trachea, behind the upper bone of the sternum, and a little below it. They also accompany the bronchi into the interior of the lung, and, when swollen, produce the most serious consequences by pressure on the surrounding parts—blood-vessels, air-passages, and nerves. There is generally in these cases pressure on the large veins coming from the head, causing lividity and swelling of the head and face. The pressure on the nerves of the larynx gives rise to cough of a peculiar ring and stridor, like that of whooping-cough. Where the disease is confined to the glands, it may terminate in recovery by calcification of the glands; otherwise it may end by the rupture of the abscess into the pleural cavity, into the œsophagus, or into a bronchus, or by the erosion of a large blood-vessel, causing fatal hæmorrhage. When the gland simply softens and becomes converted into pus, hectic fever and general wasting set in, and a very common termination in this case is the production of acute general tuberculosis induced by absorption of the degenerated gland matter. The enlarged glands can usually be detected on percussion, giving dullness over the upper part of the sternum and on either side, while over the lung the percussion sounds are normal. Owing to the conduction of the sound by these solidified glands, auscultation over the apices of the lung and the supra-spinous fossa will reveal breathing of a loud and cavernous character. A peculiar hum may be heard over the left second interspace, according to Eustace Smith, which is produced by pressure of the enlarged glands on the descending vena cava, or the left innominate vein. This author also states that one of the earliest indications of bronchial phthisis, noticeable long before the ordinary symptoms of pressure are manifest, is the venous hum heard when the patient's head is bent backward and the stethoscope is placed over the upper portion of the sternum. If the bronchial glands are at all enlarged, this position of the head tilts the trachea and the glands at its bifurcation up, and causes them to impinge upon the left innominate vein and to press it against the upper bone of the sternum as it passes behind the bone. Bronchial phthisis in a majority of cases terminates in pulmonary phthisis. If it does not, the disease may last a great length of time, and, as the lungs escape involvement, the symptoms may prove exceedingly puzzling.

Two more glands require notice in conclusion. These are the retro-pharyngeal, two small glands lying in front of the spine, and upon the rectus capitis anticus major muscle. These glands are enlarged in common with all the others in scrofula and tuberculosis, and occasionally give rise, by their suppuration, to retro-pharyngeal abscess. This is dangerous to young children from its pressure on the windpipe, and sometimes terminates fatally. Certain lymphatics of the nasal fossæ enter into these glands, and retro-pharyngeal abscess may result therefore in consequence of disease of the nose (Fraenkel, "Diseases of the Nose," von Ziemssen's "Cyclopædia," vol. iv). All cases of abscess of this kind, however, that I have met with, have been in either strumous or tubercular children.

THE MECHANICAL TREATMENT OF KNEE-JOINT DISEASE.

By CHARLES F. STILLMAN, M. S., M. D.,

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In the "Medical Record" for August 30, 1879, the writer described and demonstrated the applicability of a new form of splint for diseases of the joints, which he had a short time previously devised. It consisted of two terminal plates of thin copper, perforated upon the upper side and connected by a combined slotted bridge, elevated a short distance from the surface. This bridge consisted of two overriding slotted steel strips connected to a slotted steel sector by three clamps, as shown in Fig. 1.

It was maintained at the time that, on account of its simplicity, durability, and range of applicability, it would be found a useful splint in the various inflammatory conditions of joints.

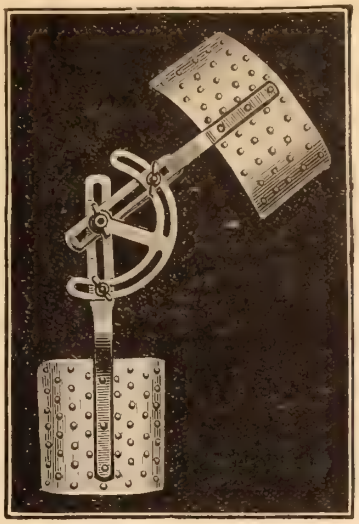
FIG. 1.—The sector splint.

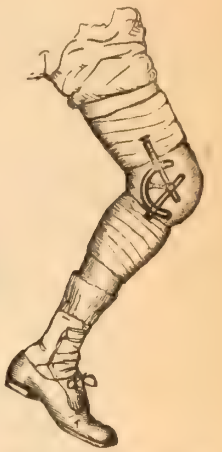
FIG. 2.—Showing application of sector bracket to knee.

This splint was afterward exhibited to the American Medical Association in 1881, and has been described more or less at length in several journals since that time.

Its usefulness and value have now been demonstrated by the experience of the intervening years, and it holds for itself in the surgical armamentarium a unique and permanent position.

It is not, however, the object of this paper more than casually to describe this splint, as its use is confined more to the treatment of acute inflammatory conditions of joints than to the chronic forms of joint disease which are to occupy our attention.

At the time of its introduction the principal point of value alleged for it was the ease with which *local* extension could be produced in a joint by the traction which the splint exerted in the axes of the limb. Taking the knee joint for example, we had at that time in orthopædic surgery but one splint which would allow this result to be produced; and this, while it produced a local extension of the knee, did not afford facilities for the proper fixation of the joint at the same time. The writer alludes to the splint of Dr. H. G. Davis, a representation of which will be seen by reference to Fig. 3.

We also had at this time the local extension splint of Professor Sayre.

Unlike Davis's splint, this, when the leg was flexed, exerted traction in the third side of the triangle, the two other sides of which were formed by the axes of the thigh and leg. Traction is not exerted in the axes of the limb by Sayre's splint, except when the limb is fully extended.

The sector splint which the writer devised thus fulfilled a mechanical condition, or a series of mechanical conditions, necessary to the proper treatment of joint disease, which were not fulfilled by either of the others just described, for, when applied firmly to the limb by plaster of Paris and adhesive plaster, the joint could be locked firmly in any position, with or without extension being produced at the same time, and the surface over the joint was left exposed for whatever dressings or applications were considered necessary.

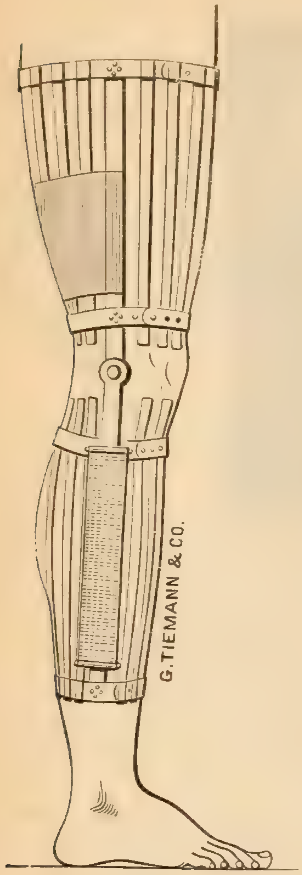

Fig. 3.—Dr. H. G. Davis's knee-joint local extension splint.

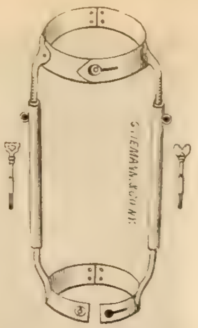

Fig. 4.—Sayre's knee splint.

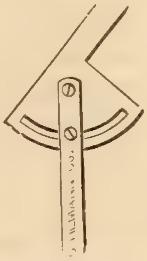

Fig. 5.—Stillman's joint movement for fixation or motion.

In chronic conditions of the knee joint, however, the plaster-of-Paris attachment is always uncomfortable, and can not be removed without disturbance of the joint. Since the atrophic changes in the soft parts about the joint render frequent removal of the dressing desirable, it becomes almost a necessity to provide special forms of apparatus which can be removed whenever necessary. These should retain in their formation the principles governing the construction of the sector joint splint itself; in fact, the treatment of diseases of the knee joint, as a class, has, from a surgical standpoint, been impeded by the difficulty in procuring apparatus which could be used advantageously through all stages of the treatment, and through all possible conditions which might arise during such treatment.

One of the most important of these indications is to incorporate in the brace, and to place on either side of the joint (in its transverse pivotal axis), a movement which will allow of either fixation or motion.

In Fig. 5 such an one is shown,* and if the pivotal center is placed in the transverse pivotal axis of the joint, its arc of motion will correspond closely to the arc of motion in the normal joint, and by means of the clamp in the slotted arc the joint may be fixed in any desired position, or, by releasing the clamp slightly, motion may be allowed.

Another important indication is the occasional employment of traction, and a new feature in this splint consists in the method of obtaining it by having adhesive plaster grasp the knee just below and above the joint over a *very limited* area; and to effect this the plaster is cut in the fan-shape shown in Fig. 6 (*A*), and long strips of webbing are attached to each. It requires four of these fan-shaped pieces for each knee, and four long pieces of webbing; and these are to be placed as shown in Fig. 6 (*B*), interlaced for greater security from displacement, and then covered with roller bandage, as in Fig. 7. Upon the superior and inferior extremities of the splint are provided rollers and buckles, to which the webbing is to be attached, and then, by means of an elastic ratchet, force may be applied upon the thigh portion of the instrument to effect the extension (see Fig. 9).

This arrangement differs from any attachment in ordinary use at the present time in being limited to a small zone just above and below the joint, and consequently does not interfere with the muscular structure of the thigh or leg, as is the case when the splints are applied by adhesive plaster over the whole extent, as in other splints for this purpose, or in the plaster-of-Paris attachment formerly used by the writer.

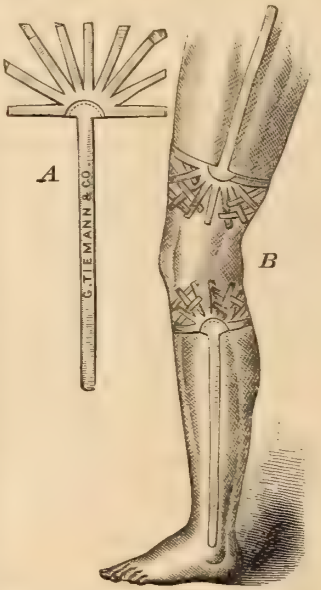

Fig. 6.—(*A*) Fan-shaped pieces of adhesive plaster, with webbing attached, for traction.
(*B*) The same applied to limb, interlaced.

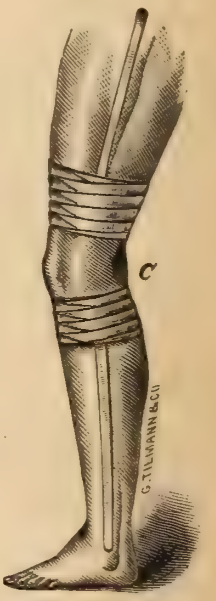

Fig. 7.—(*C*) The same covered with roller bandage, ready for the splint.

To exert the traction and produce extension of the joint, the ends of the webbing strips are to be passed over the rollers at each extremity of the splint, and, after being pulled upon as firmly as possible, are secured in the buckles provided for that purpose.

The upper thigh girth is then pushed away from the remainder of the apparatus by either elastic or rigid ratchets, as the surgeon prefers. The ratchet shown in Fig. 8 consists of two overriding slotted strips, which can be fastened together by a screw-clamp when sufficient traction has been exerted by the elastic strap provided for that purpose.

This form of ratchet is a modification of the original

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* For description of this movement, see the "Boston Medical and Surgical Journal," August 31, 1882, p. 200.

Davis elastic ratchet, and in the hands of the writer is more effective than any other traction ratchet he has used, because, by simply loosening or tightening the clamp (the elastic strap being on the stretch at the same time), the traction may be varied from the elastic to the fixed at the will of the surgeon; but the writer has found that, if the elastic tension is kept up unvaryingly, the adhesive plasters are apt to cut into the skin in very much the same manner as and on the principle of an elastic ligature.

This is obviated, without impairment of the efficacy of the traction, by simply tightening the clamp holding the slotted strips together when the desired amount of extension of the joint is secured.

Another indication, also, of the utmost importance in the treatment of knee-joint disease is the prevention of posterior luxation.

Most of the diseases of the knee joint are accompanied by a tendency, even in the milder cases, to luxation of the tibia backward, and this is a feature which the mechanicians of orthopædic surgery have tried to overcome with more or less success.

To meet this indication, the author has devised a new and effective arrangement (see Fig. 8), which brings to bear a spring lever power which is distinct from anything heretofore used, and operates without interfering with the action of the remainder of the brace. It will be noticed that it is a long, flat steel bar, bent to conform to the back of the leg, and placed posteriorly. At its upper end is attached a semi-girth which presses on the back of the upper part of the leg, and below it is attached to a stirrup which is itself fastened to the lower girth of the instrument.

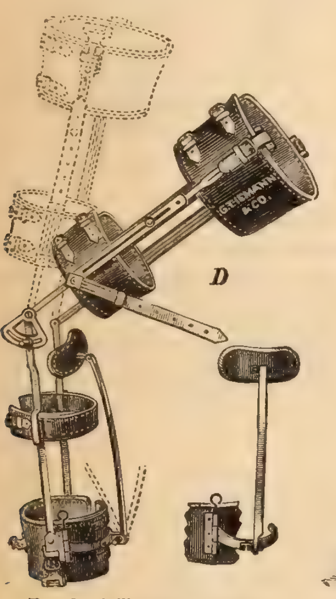

FIG. 8.—Stillman's knee splint.

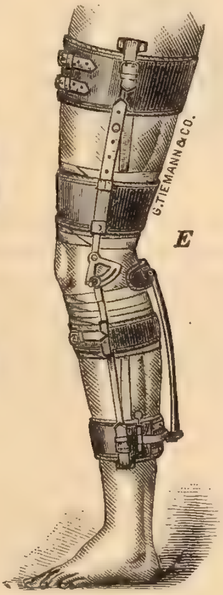

FIG. 9.—Stillman's knee splint applied.

This stirrup is provided with a hinge and a socket, so that it may be opened and shut when the rest of the brace is in position, and the forward pressure, which is dependent upon the angle which the posterior lever makes with the rest of the brace, can thus be adjusted by means of a ratchet at the intersection of the lever with the stirrup without the necessity of removing the brace from the limb. One of the features of this arrangement consists in its availability for all classes of cases in which the least tendency to this subluxation exists, for it can be adjusted to any desired angle, thereby giving any degree of forward power, and this power is brought to bear precisely where it is wanted, and without causing impingement of the brace upon the limb at any point.

There are very few cases of joint disease, even of the simplest form and of the most recent date, in which the comfort of the patient is not increased by having a certain amount of forward pressure just below the popliteal space.

How many of these patients say to the surgeon that they feel they could walk if they "had something that would press the leg forward just below the knee, as it seems weak at that point"! And by the arrangement shown this power can be supplied without interfering with the main portion of the brace or with the motion of the joint.

There is no form of knee-joint disease in which this forward pressure, in either a lesser or greater degree, is not of advantage; and there is an anatomical reason for this, since in these diseases relaxation of the quadriceps extensor femoris is accompanied by a contraction of the antagonist flexor muscles, the biceps, semi-membranosus, and semitendinosus, thus interfering with the possibility, in many cases, of producing linear traction in the proper axes of the thigh and leg; while, if the tibia is held forward in the position it would have if the anterior muscles were exerting their normal power, the extension of the joint is effected without pain to the patient, and the traction is exerted in the proper direction.

By means of a ratchet at the intersection of the inferior extremity of the posterior lever and the stirrup to which it is attached, this power, as has been stated, can be adjusted so that the lever can be varied from a mere upright support to a spring lever of tremendous force, and in every case in which it is applied (provided, of course, that the power exerted is not beyond the proper amount necessary for the particular case) the patient's usual comment is that the comfort of the apparatus is thereby much increased; and from a surgical standpoint the joint is placed in much better condition for curative treatment, because this tendency to backward luxation is greatly overcome.

After traction has accomplished its purpose and extension of the joint is no longer necessary, the splint is so arranged as to permit the removal of the rollers and buckles at each extremity and of the traction ratchets, thus converting it into an effective simple fixation splint or knee support during the stage of convalescence, when by the use of restorative measures the anterior muscles of the thigh have been strengthened so as to hold the tibia forward in its proper axis with the femur.

In Fig. 10 is shown a brace which differs from the one just described only in the greater lateral support afforded the knee by the use of two larger sector movements opposite the joint. There is also frequent occasion to force the sides of the brace as closely against the joint as possible in order to afford protection from lateral displacement, and to effect this the knee is spanned anteriorly by a metallic band sufficiently raised not to touch the surface. This band is divided in the center anteriorly and the two ends are connected by a screw which draws them nearer together or forces them farther apart, as desired.

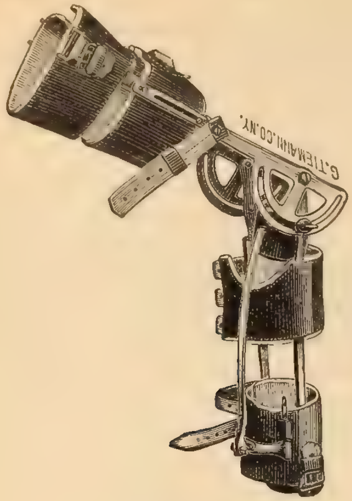

Fig. 10.

This brace is shown in Fig. 11, and perhaps will be still better understood by reference to Fig. 12, which illustrates it as applied upon the limb. So far, the braces shown are used in connection with crutches and a raised shoe, but in convalescence, when the weight of the body can be borne without pain, and yet protection of the joint is desired, the side-strips of the brace are frequently extended below the foot, being attached to the shoe underneath the arch by a pivot to allow of the natural movements of the foot, and jointed opposite the ankle on either side, as shown in Fig. 13. Another very good convalescent brace, to be used when it is desired to keep the weight of the body off the affected joint and yet permit locomotion, is shown in Fig. 14, in which the side-strips terminate superiorly in a hip-band and perineal crutch, and inferiorly in a heel-plate, sector joints being provided at the knee and ankle for regulating the movements of those joints; but such an apparatus is rarely required.

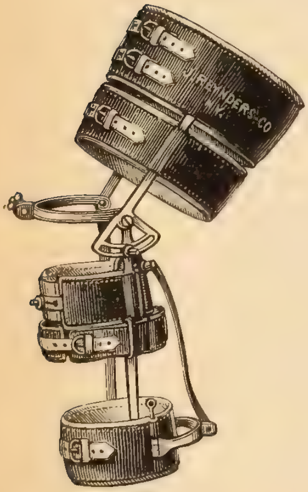

Fig. 11.

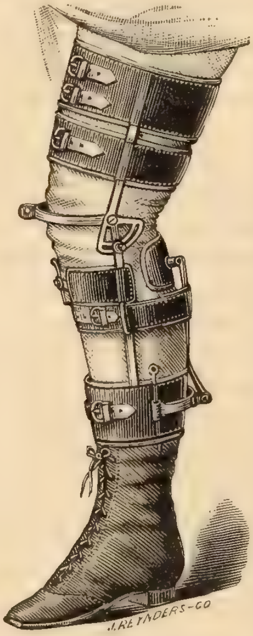

Fig. 12.

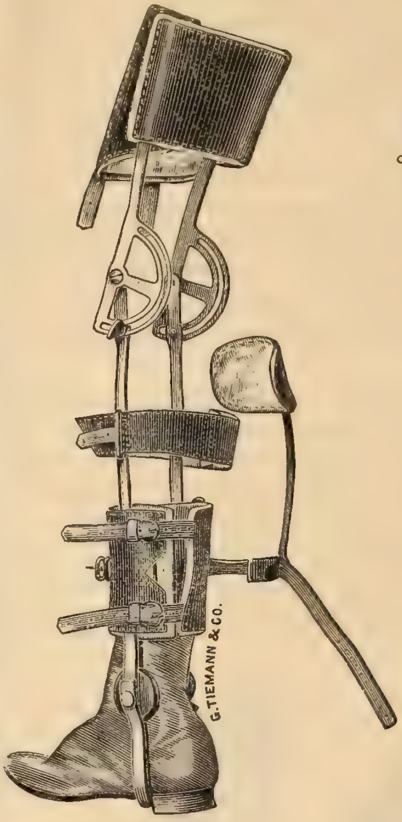

Fig. 13.

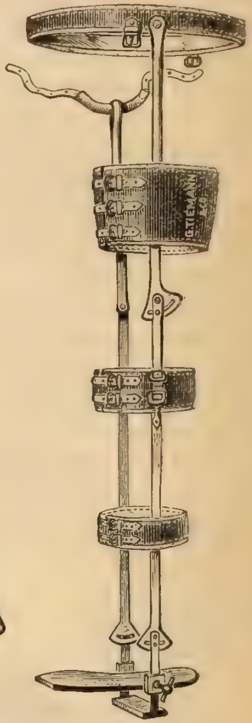

Fig. 14.

It is the province of the orthopædic surgeon, and not of the instrument-maker, to decide the form of brace adapted to each special case, and the more thoroughly the profession becomes familiar with this idea and practices it, the fewer will be the failures which so frequently attend the mechanical treatment of chronic disease of the knee joint.

TWO CASES OF
CARDIAC DISEASE IN CHILDREN
(SISTERS),
UNDER OBSERVATION NEARLY FIVE YEARS.*

By L. EMMETT HOLT, M. D.

Case I.—In February, 1881, Mary K., now aged twelve, had diphtheria with slow convalescence, followed three months later by general dropsy, scanty urine, once with entire suppression. She had occasional attacks of dropsy for a year afterward. In April, 1882, she was in very poor condition, dropsical, very anæmic, suffering from marked dyspnœa, and she looked as though she would not live three months. The heart was greatly hypertrophied and considerably dilated, the apex one inch to the left of the mammary line, and a loud apex systolic murmur was heard.

Since that time she has had no dropsy. During the first year of observation the hypertrophy and dilatation both increased, and the apex was thenceforth in the anterior axillary line.

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* Read before the New York Clinical Society, November 26, 1886.

In 1884 and 1885 she began to suffer from frequent attacks of subacute rheumatism in the feet, knees, and wrists. Early in the present year the tendinous nodules were first observed. In March they were present in both palms and about both patellæ. Since then some of these have disappeared and some new ones have formed.

The condition of the heart has changed but little for the past three years. There has been no increase in the hypertrophy, and the dilatation seems to be less marked. She now suffers but little inconvenience, comparatively speaking, from the dyspnœa; she goes to school and leads quite an active life. There have been no renal symptoms for nearly four years.

At present she is in good general health, has no cough, and the heart acts regularly and well. The apex-beat is heaving and forcible, and strikes the chest in the anterior axillary line two inches and a half from the mammary line and four inches and a half from the middle of the sternum; it is in the sixth space, one inch below the level of the nipple. A loud purring thrill is felt over the whole cardiac area.

A systolic murmur, loudest at the apex, is heard, but distinctly audible over the whole chest, front and back. A presystolic murmur is audible over a circumscribed area near the apex. There is very great bulging of the præcordial space. There is a tendinous nodule of the size of a small bean just below the right annular ligament, moving with the flexor tendons with a grating sound, and there is a smaller one over the flexor tendon of the index finger in the palm of the same hand. She has had no rheumatic symptoms worth mentioning during the past four months.

Case II.—Emma K., now aged thirteen years and a half. In the autumn of 1881 she had chorea; during the following winter she suffered for the first time from rheumatism of the subacute form in the shoulder, ankles, and knees. In the spring of 1882 she was weak, easily tired, and anæmic, and suffered from shortness of breath on exertion.

In June I made the following record of her condition: "Heart hypertrophied; apex-beat one inch to the left of the nipple; a loud apex systolic murmur, heard well behind, and over the right second space near the sternum another systolic murmur, differing slightly in character from the above-mentioned and distinct in the carotids." She was very much run down at this time, but had no dropsy.[1]

The murmurs heard were confirmed by two other physicians, both excellent physical diagnosticians, and remained without special change for two years. During the past years the basic (aortic obstruction) murmur has been growing less distinct, and latterly I have been unable to hear it at all. The hypertrophy has not increased during the period of observation. The apex-beat is now three inches and a quarter to the left of the median line, half an inch beyond the nipple. The heart-sounds are clear and strong. The mitral regurgitant murmur is very distinct, though not so loud as formerly.

The girl is in excellent condition; the changes of puberty are just beginning to show themselves; she is plump and well nourished; rarely complains of any dyspnœa; and has an excellent appetite and no cough.

She has never had any dropsy nor hepatic or splenic enlargement. She has never had acute rheumatism, but has had frequent transient attacks of the subacute variety, which have been fewer during the past year.

Both parents have had slight attacks of subacute rheumatism, but there are no other evidences of the diathesis in other members of the family.

In the case of Mary, the younger child, the heart disease was at first looked upon as a complication of the attack of diphtheria or the nephritis which followed it. The subsequent manifestation of rheumatic symptoms leads me now to the opinion that it was the result of a rheumatic endocarditis antedating the diphtheritic symptoms. The tendinous nodules so well marked in this case are, in my experience, only very infrequently seen, though when present they are pathognomonic of rheumatism.

The second patient, Emma, shows the interesting sequence of events by no means uncommon of, first, chorea; second, rheumatism; and, third, cardiac disease. Both cases show how well a very serious amount of cardiac disease is borne in children, and also that with the progress of growth the symptoms and the physical signs tend to become less and less marked, the growing tissues of the child accommodating themselves better to the order of things than those of the adult, provided always that no severe acute disease occurs.

The Heating of School-Houses with Furnaces.—In a "Report upon School Hygiene," by Dr. D. F. Lincoln, published in the "Sixth Annual Report of the State Board of Health of New York," we find the following remarks:

"There is much carelessness about the source of air which is drawn into furnaces for heating, and sent up into rooms. The ground may, it is true, be a pure and inoffensive bit of turf, but that is an unusual condition in a city school-yard. Bad air, malarial air, is known to settle upon the ground in many cases. The ground-level is less reached by the renovating breezes than higher levels. Sundry unpleasant surroundings of school-houses are at the ground-level. As a rule, openings for drawing the outer air into the heaters had better be at points above the children's heads, and covered with wire netting.

"Something more should be said of the cellar. It can not be too often repeated that the purity of cellar air lies at the foundation of the purity of house air. The danger of severe and sudden illness lurks in cellars as often as in sewers. The common practice in regard to a cellar is to bury the drain under its floor—to place water-closets in its darkest corners—to store combustible rubbish in wooden bins (I have seen great heaps of paper scraps)—to pile away old rotten boards and clothes—to hang children's outer garments in it—in short, there are few uses of a menial sort to which it is not put. The cellar is often without a proper floor, often is very dark and close for want of windows, often is darkened by placing the heater-boxes in front of windows.

"To these sources of pollution (for darkness is one source) add the fact that in cold weather a powerful outside pressure exists, forcing air into the cellar, and thence into upper parts of the house. It is too much to expect that an average cellar will be so pure, so free from all these objectionable things, that air may safely be taken up from it by furnaces for the consumption of the house.

"Let the floor be concreted or asphalted so as to be air- and water-tight. Put no drain underneath, unless in trench with a wooden or stone cover. Put *one* large trap outside of the walls for each sewer, ventilate it by an opening just inside the trap, run the soil-pipe up full-sized several feet above the roof, and protect it from rain; ventilate the trap under each washstand. Have no water-closets in the cellar; or, if they be thought necessary, isolate them in separate chambers of masonry with abundance of light, accessible to the children from the outside only of the house. Give a plenty of windows and good height, and keep the walls whitewashed."

The Death-rate of Boston.—The total number of deaths reported to the Board of Health for the week ending January 1st was 201, which was an increase of 35 over the corresponding week of the previous year, and made the rate for the week 26·1 for every thousand inhabitants. There were 3 deaths from diphtheria, 1 from scarlet fever, 1 from typhoid fever, 3 from measles, 33 from consumption, 40 from pneumonia, 11 from heart disease, 17 from bronchitis, 9 from marasmus, and 12 from violent causes, including 2 suicides.

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NEW YORK, SATURDAY, JANUARY 8, 1887.

SANITATION IN ITALY.

The present state of medicine in Italy is so completely creditable to our colleagues of that country that the deplorable condition of Italian public sanitation, as vividly portrayed by Professor Albanese in the essay which we publish elsewhere in this issue, appears all the more anomalous. We can not suppose, however, that the physicians of Italy have been remiss in presenting the importance of sanitary matters to the attention of the Government or of the people; we must rather infer that the Government, not having even yet succeeded in gaining the confidence of the whole people, has held aloof from an energetic system of regulations relating to public health out of a conservative feeling—very natural under the circumstances—that it was temporizing in the interest of more complete success in the future. It must, indeed, be difficult to deal with a people possessed with the idea that the Government, far from looking out for their welfare, is really plotting their destruction by wholesale poisoning, and accustomed to resort to violent "demonstrations" whenever the fancy is entertained that a quarantine ought to be imposed, or whenever any other occasion of discontent arises. Mobs, it is true, are not peculiar to Italy, but elsewhere than in that country they generally fail to affect the conduct even of municipal governments. There, it seems, they are of common occurrence, and are not put down until soldiers make their appearance—soldiers whom we may fancy saying to themselves, like those in the comic opera:

"Mais, par un malheureux hasard,
Nous arrivons toujours trop tard."

Whatever may be thought of quarantines in general, it may readily be imagined that in a country where they are often proclaimed to pacify a turbulent gathering of the ignorant and lawless their enforcement must be half-hearted, and therefore worse than useless. Perhaps this accounts in some measure for Professor Albanese's low estimate of their value. It can not be denied that, to be effectual, a quarantine must be strict, nor can it be disputed that a strict quarantine interferes sadly with trade; but these postulates do not lead us to agree to the proposition that the lives saved by such a quarantine would not compensate for the damage done to commerce. It is difficult, moreover, to reconcile Professor Albanese's distrust of quarantines with his pointed recommendation of extreme measures relating to the rag trade.

Still, however much we may feel that Professor Albanese's views on quarantine should be taken with allowance, the general wisdom of his remarks is obvious. He does well to say that sanitary regulations should not be founded on ætiological theories, but should above all else be practical. Measures that have proved efficient in the past should be adhered to, whether their effectiveness is the more plausibly explained, for example, by the "localists" or the "contagionists." It will be conceded, too, that the sanitary laws of a country should be in their main features the same for all parts of the country, and that they should be enforced systematically rather than with the misdirected and spasmodic zeal inspired by an occasional epidemic visitation. It is on these points that Professor Albanese lays most stress, and it is to be hoped that his argument will not pass unheeded by the Italian Government.

MINOR PARAGRAPHS.

THE SATISFACTORY ENDING OF A VEXATIOUS SUIT.

Some months ago we chronicled the remarkable action of a jury in awarding a young woman damages in a suit brought by her against two reputable New York physicians, father and son, to recover compensation for the detriment alleged to have been suffered by her in consequence of her having been taken to a hospital for infectious diseases as a small-pox patient, whereas, as she maintained, she was not affected with that disease at all. It was not pretended that the two physicians actually procured her incarceration, but simply that, as was their duty under the law, they reported to the Health Department that, in their opinion, she was suffering from small-pox. On the trial it was not really proved that their opinion was erroneous, but it was proved abundantly that the Health Department was responsible for the woman's conveyance to the hospital. The common impression at the time was that the verdict was wholly unjustified, and now the ponderous machinery of the law confirms that impression. The General Term has recently reversed the decision of the lower court, and affirmed that the complaint should have been dismissed. The decision is said to be the first one that has turned on the precise points raised, and the profession is indebted to the defendants for appealing the case, thus leading to the establishment of a precedent assuring physicians of their safety in complying with the law under like circumstances. To pay the damages without demur would undoubtedly have been a less repugnant course for them personally, but they honorably chose to make their case a test for the general welfare, and it will be remembered to their credit.

IMPURE ICE AS A CAUSE OF DISEASE.

The State Board of Health, having been asked by the Board of Health of Syracuse to examine into the purity of ice taken from Onondaga Lake, from the Erie Canal at Syracuse, and from Cazenovia Lake, has not only made a careful investigation into the quality of ice from those sources, but has also prepared a report on the general question of the pathogenetic powers of contaminated ice. The board comes to these conclusions: Ice formed in impure water has caused sickness; it may contain from eight to ten per cent. of the organic matter dissolved in the water, and in addition a very large amount of the organic matter that had been merely suspended or floating in it; it may contain living animals and plants ranging in size from visible worms down to the minutest spores, and the vitality of these organisms may be unaffected by freezing.

TRAP SIPHONAGE AND VENTILATION.

Mr. Glenn Brown, the architect, has published a pamphlet giving an account of some interesting experiments undertaken by him at the Naval Museum of Hygiene, bearing upon the disputed question of the efficacy of the ventilation of plumbers' traps in preventing siphonage. The matter of back-pressure from the sewers was also taken into account. It was found that even the ordinary S-trap, acknowledged by everybody to be the most easily siphoned, could not be siphoned, nor its seal broken by back-pressure, when properly ventilated.

A NEW FRENCH JOURNAL.

"La Province médicale" is the title of a new sixteen-paged double-columned weekly journal published at Lyons, and edited by Dr. Victor Augagneur. The third number, dated December 18th, has reached us, and we find its contents exceedingly satisfactory. It opens with an introductory lecture in obstetrics by Professor Fochier. The leading editorial article deals vigorously with one Dr. Roussel, whom the writer criticises for exploiting "eucalyptol injectable." This gentleman, the article pointedly says, has seen fit to follow Ferrán's example rather than Jenner's or Pasteur's.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 4, 1887:

DISEASES.	Week ending Dec. 28.		Week ending Jan. 4.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	17	5	18	5
Scarlet fever	34	6	39	6
Cerebro-spinal meningitis	6	6	1	1
Measles	518	64	437	53
Diphtheria	125	42	136	50

Trichiniasis.—It is reported that two of the members of a German family in Lawrenceville, a suburb of Pittsburgh, Pa., are afflicted with the disease from having eaten of an uncooked ham which was found to be infested with the parasites. One of them, it is said, will probably die.

The Equine Origin of Tetanus.—At a recent meeting of the Paris *Société de chirurgie*, a report of which appears in the "Gazette hebdomadaire de médecine et de chirurgie," M. Terrier expressed surprise that the views lately advanced by M. Verneuil had been so readily accepted by his colleagues. Founding his statements on data furnished by Professor Nocard, of the veterinary school at Alfort, M. Terrier said that for the past forty years there had not been a case at Alfort of the communication of tetanus from the horse to man, although the pupils who made post-mortem examinations of horses that had died of the disease very often had abrasions of the hands.

Apothecaries and Prohibition.—In consequence of extreme measures adopted by a prominent citizen of Quincy, Mass., several of the apothecaries of the place have decided not to sell spirituous liquors even when ordered in the form of a prescription by physicians. They will, it is said, remove all liquors from their shops on the ground that they can not sell what they have not in stock. A leading physician of the town characterizes the action on the part of the apothecaries as "wholly unnecessary," and maintains that, inasmuch as physicians are frequently obliged to order liquor for their patients, the apothecaries can sell it under those circumstances without fear of molestation or prosecution.

Professor Pajot, of the Paris faculty, having obtained his retirement on his seventieth birthday, his pupils and friends, as we learn from the "Gazette hebdomadaire de médecine et de chirurgie," assembled and presented him with his bust in bronze. M. Doléris, speaking for Pajot's old pupils, expressed their regret at the termination of his service, and the Director of Public Charities gave him the thanks of the Administration.

The Hospital Saturday and Sunday Collection amounts, at the time of our going to press, to $24,845.70.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 19, 1886, to December 31, 1886:*

Forwood, W. H., Major and Surgeon. Granted leave of absence for one month. S. O. 129, Department of Dakota, December 16, 1886.

Lauderdale, J. V., Captain and Assistant Surgeon. Ordered from Fort Concho to Fort Clark, Texas. S. O. 174, Department of Texas, December 16, 1886.

Everts, Edward, First Lieutenant and Assistant Surgeon. Ordered from Fort Grant to Fort Apache. S. O. 136, Department of Arizona, December 16, 1886.

Mason, Charles F., First Lieutenant and Assistant Surgeon. Ordered from Fort Huachuca to Fort McDowell. S. O. 136, Department of Arizona, December 16, 1886.

Banister, W. B., First Lieutenant and Assistant Surgeon. Ordered from Fort Wingate to Fort Lowell. S. O. 136, Department of Arizona, December 16, 1886.

Dietz, W. D., First Lieutenant and Assistant Surgeon. Ordered from Fort Stanton to Fort Bayard. S. O. 136, Department of Arizona, December 16, 1886.

Polhemus, A. S., First Lieutenant and Assistant Surgeon. Ordered for duty as post surgeon at Fort Gaston, California, relieving

Raymond, H. I., First Lieutenant and Assistant Surgeon. Ordered for duty at Angel Island, California. S. O. 123, Department of California, December 13, 1886.

Anderson, C. L G., First Lieutenant and Assistant Surgeon. Assigned, temporarily, to duty at Whipple Barracks, Arizona. S. O. 132, Department of Arizona, December 7, 1886.

Koerper, Egon A., Major and Surgeon. Granted leave of absence for two months, to take effect about January 1, 1887. S. O. 297, A. G. O., December 27, 1886.

Phillips, John L., First Lieutenant and Assistant Surgeon. Granted one month's extension of his leave of absence. S. O. 297, A. G. O., December 27, 1886.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ended January 1, 1887.*

Anderson, F., Passed Assistant Surgeon. Ordered to the U. S. steamer Thetis.

Anzal, E. W., Assistant Surgeon. Detached from the Receiving-Ship Independence, and ordered to the Coast Survey steamer McArthur.

Green, E. H., Passed Assistant Surgeon. Detached from the Naval Laboratory for temporary duty on the Receiving-Ship Independence.

Gatewood, J. D., Passed Assistant Surgeon. Ordered to the Naval Academy.

Society Meetings for the Coming Week:

Monday, *January 10th:* New York Ophthalmological Society (private); New York Medico-Historical Society (private); New York Academy of Medicine (Section in Surgery); Lenox Medical and Surgical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement (annual); Gynæcological

Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, *January 11th:* New York Medical Union (private); Medical Societies of the Counties of Chautauqua (semi-annual), Chenango (annual), Clinton (annual—Plattsburg), Erie (annual—Buffalo), Genesee (semi-annual — Batavia), Jefferson (annual—Watertown), Livingston (semi-annual), Madison (semi-annual), Oneida (semi-annual—Rome), Onondaga (semi-annual—Syracuse), Oswego (semi-annual—Oswego), Rensselaer (annual), St. Lawrence (annual), Schenectady (annual—Schenectady), Schuyler (annual), Steuben (semi-annual), Tioga (annual—Owego), Wayne (semi-annual), and Yates (semi-annual), N. Y.; Newark (private—election) and Trenton (private), N. J., Medical Associations; Norfolk, Mass., District Medical Society (Hyde Park).

WEDNESDAY, *January 12th:* New York Surgical Society; New York Pathological Society (annual); American Microscopical Society of the City of New York; Medico-legal Society (anniversary); Medical Societies of the Counties of Albany, Cayuga, Delaware (semi-annual), Dutchess (annual—Poughkeepsie), and Seneca (semi-annual), N. Y.; Tri-States Medical Association (Port Jervis, N. Y.); Pittsfield, Mass., Medical Association (private); Hampshire (quarterly—Northampton) and Worcester, Mass., District Medical Societies; Bennington County, Vt., and Hoosick, N. Y., Medical Society (annual—Arlington); Philadelphia County Medical Society (conversational).

THURSDAY, *January 13th:* Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society (annual and election); Medical Society of the County of Fulton (annual—Johnstown); South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, *January 14th:* New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties.

SATURDAY, *January 15th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of December 16, 1886.

The President, Dr. A. JACOBI, in the Chair.

THE President introduced Dr. Charles A. L. Read, of Cincinnati.

The Secretary read letters from Dr. Loomis and Dr. Dalton declining the nomination for the presidency.

Fermentation, Putrefaction, and Suppuration; with Demonstrations and Experiments.—Dr. HERMANN KNAPP introduced his subject with a few remarks on the importance of bacteriology in the study of medicine. When abroad last summer he had heard a distinguished professor of Berlin say that the great majority of diseases seemed, from the modern standpoint of science, to be of bacterial origin. He had been struck with the remark from the fact that only a few days before a professor in one of the colleges in New York had said: "Bacteriology may be important from a scientific point of view, but practically, what does it signify? Six diseases." Here was a great contrast, and he asked if it was not possible that the one overrated and the other underrated the importance of the subject. He then referred to statistics, and he found in the "Boston Medical and Surgical Journal" the death-rate from different diseases in a number of American cities. In New York for the week ending August 21, 1886, the death-rate from infectious diseases was placed at 33 per cent.; then followed the mortality from consumption, 16 per cent.; from diphtheria and croup, 5 per cent.; and these, being undoubtedly of bacterial origin, raised the percentage of deaths from diseases of bacterial origin to 54. The figures from other cities varied but little. Of diarrhœal affections, he thought, at least 90 per cent. were of bacterial origin, and in the statistics quoted the percentage of deaths from diarrhœal diseases was placed at 20 in New York, and as high as 35 in some other cities. This would raise the percentage of deaths from bacterial diseases to 75. But no account had yet been taken of the deaths from pneumonia, peritonitis, endocarditis, malarial disease, gonorrhœa, typhoid fever, skin diseases, or surgical affections. Reckoning these at 15 per cent., it brought the percentage of deaths from diseases of bacterial origin up to 90. This outcome of the figures had struck him with surprise, and, unless he had made a great mistake, they showed that the Berlin professor was correct.

The process of putrefaction was akin to that of fermentation, only the bacteria were different, and the putrescible substance was different from the fermentescible; it contained carbohydrates, sulphur, and nitrogen. Were the processes of putrefaction and suppuration the same? Surgeons generally used the terms so promiscuously as to lead one to suppose either that they were identical in meaning or that suppuration was a sequel of putrefaction. Yet there seemed to be an important difference between them. The author then stated three interrogatory propositions: 1. Does mere traumatism produce suppuration? 2. Do foreign bodies produce it? 3. Do chemical agents of any nature produce it?

As bearing on the first question, he said that while in Berlin he performed on rabbits all the operations which the ophthalmologist was called upon to perform on man; on one eye with clean instruments, on the other with contaminated instruments. The wounds made with clean instruments always healed without suppuration; those made with contaminated instruments always suppurated. He had performed operations upon the human subject in the rudest manner, but with perfectly clean instruments, and suppuration had never followed. If a simple fracture ever suppurated it was only when there was a focus of suppuration at some other point. He therefore concluded that mere traumatism was in no way capable of producing suppuration.

Were foreign bodies of themselves capable of producing suppuration? As bearing upon this question, he exhibited rabbits into one eye of which he had inserted the end of a rusty hair-pin and allowed it to remain, and into the other the end of a rusty hair-pin brought to a glow; the first eye had in every case suppurated, while in the second no suppuration had taken place.

As to the third question, many of the highest authorities had asserted that chemical agents would produce suppuration. If this apparent exception was not shown to be invalid, the germ theory of suppuration could not be supported. The experiments of Straus and others, and those which the author himself had performed, showed that chemical agents would not produce suppuration when germs were rigorously excluded. Experiments with these agents, however, were not easy; they were especially difficult with croton-oil, which was extremely irritating and unmanageable. Yet he had succeeded in injecting a drop into one eye of a rabbit, avoiding the entrance of germs and the formation of pus, while in the other eye, treated without precautions against the entrance of germs, suppuration had developed. The best method for carrying out this experiment was Straus's, consisting in first cauterizing the skin of the animal where the injection was to be made, and sealing the puncture with the cautery immediately on withdrawing the needle. While signs of irritation were present in the eye in which croton-oil was injected with precautions against the entrance of germs, there was no pus and there were no germs; the contrary was the case when the oil was injected without such precautions. He therefore thought the proposition that no chemical agent, however irritant, would produce suppuration was pretty well established.

In conclusion, he asked, What is suppuration? He thought that, as in the case of fermentation, the cause—the microbe—entered into the definition, so also should it enter into the definition of suppuration. Fermentation consisted in the splitting up of the hydrocarbons into simpler elements by the aid of yeast-cells; putrefaction was the splitting up of nitrogenous substances into simpler elements by the agency of microbes; and it had been shown that suppuration was likewise the splitting up of nitrogenous substances into simpler elements by the agency of bacteria. The substances acted upon and the agencies were the same in the process of putrefaction and that of suppuration, but we spoke of the process as putrefactive when the substance was a dead material, and as suppurative when it was living material. So we might say that putrefaction was the splitting up of dead nitrogenous substance through the agency of bacteria, while suppuration was the splitting up of living nitrogenous substance through the agency of the same or similar bacteria. In this way the parallelism of the three processes—fermentation, putrefaction, and suppuration—was established. The speaker then showed different kinds of micrococci.

PHILADELPHIA CLINICAL SOCIETY.

Meeting of November 26, 1886.

The Vice-President, Dr. Clara Marshall, in the Chair;
Dr. Mary Willits, Reporting Secretary.

Recovery after Abdominal Section for Purulent Peritonitis.—Dr. John B. Roberts read the following paper: The operative treatment of peritonitis is of sufficient importance to warrant the report of the following successful case:

A woman, aged forty-four, came under my notice with the following history: About eight weeks ago she was seized with violent pain in the abdomen, which pain has been constant ever since, with occasional griping and colicky sensations. There has been no vomiting, but for three weeks past she has been restricted entirely to liquid food by her physician. There has been no chill. When first seen by me, she stated that some three weeks previously she had been seized with great pain in the abdomen during the night, and that about that time she had noticed in the left side of the belly a mass or tumor. I could get from her no definite history of the tumor, nor of any previous abdominal disease. Her health previous to the present illness had been good. At the time my attention was called to her by Dr. Arthur V. Meigs, she had a temperature of over 102° F., and a pulse of about 130. From the flushed face, the thighs flexed upon the pelvis, the considerable pain on palpation of the abdomen, and the adynamic condition, it was very evident that the woman was suffering from peritonitis due in some way to this tumor.

Accurate examination was not practicable, on account of the pain which it caused, and the woman's condition was too weak to permit of any extensive or elaborate means of diagnosis being instituted. The tumor was smooth in outline and apparently of about the size of a fœtal head. A vaginal examination showed the uterus to be not much out of the normal position, although the fundus seemed to be tilted somewhat forward. My diagnosis, made in a provisional way, was a cyst of the left ovary of perhaps several months' duration, which had ruptured, allowing the contents to escape into the abdominal cavity. It was possible, of course, that the peritonitis was due not to rupture of an ovarian cyst, but to some other form of tumor or to disease of the Fallopian tubes.

Under the belief that removal of the tumor and cleansing the peritoneal cavity of the contents of the tumor, which had been thrown into it, would afford the best chance of recovery, I was induced to call a consultation as to the propriety of doing an abdominal section. Accordingly, on the following day, with the consent of the other members of the surgical staff of the Pennsylvania Hospital who were present, I made an incision through the linea alba, extending almost from the umbilicus to the pubes, and at once exposed a smooth tumor containing fluid. Puncture of this with the trocar evacuated some five or six ounces of very offensive pus. The intestines and omentum were adherent to the surface of this sac, which was evidently the rounded mass felt through the abdominal wall. It was soon apparent that there had been a long-standing inflammation involving the structures contained within the abdominal cavity. It was impossible to enucleate this large sac or cyst, because of the matting together of all the structures and the large amount of new tissue which had formed as the result of the inflammatory process.

Although great care was taken and a good deal of time consumed, I was unable, either by my hand or by means of a bougie introduced as an explorer, to determine the original site of the growth, or the reason for the beginning of the inflammation. There were a number of similar sacs or cysts containing pus, the walls of which were made up of adventitious tissue and the neighboring viscera. In fact, the whole contents of the left side of the pelvis were glued together by inflammatory adhesions and new-formed tissue. As it was found impossible to remove all the new tissue or to tear up all the adhesions, I was content with scraping out the most accessible portion of the sac wall, removing the pus from the numerous other cavities, and washing out the abdomen very thoroughly with a solution of bichloride of mercury, 1 to 10,000. The abdominal wound, which was about five inches in length, was closed with catgut sutures. Two rubber drainage-tubes were inserted at the lower angle of the wound, and a dressing of iodoform and corrosive-sublimate gauze was applied.

The whole operation was done under the strictest antiseptic precautions, and the patient was then put to bed. For two days she received no food, liquid or solid, being allowed simply cracked ice, and an occasional small dose of morphine and brandy. Subsequently she was given small quantities of milk and such easily digested food. On and after the second day a solution of corrosive sublimate, of the same strength as that used at the time of the operation, was used for washing out the abdominal cavity through the drainage-tubes, but the upper portion of the wound dressing was not removed. The temperature gradually fell to normal, which point it reached on the fourth day. At this time the upper portion of the dressing was removed for the first time, and a complete union was found of the upper portion of the wound. Three weeks after the operation she was discharged from the hospital at her own request, although she had not yet regained sufficient strength to be able to move about the room. In fact, we had kept her in bed up to that time, fearing that the exhaustion of getting up might be deleterious to her. During the last week of her stay in the hospital a portion of the incision reopened superficially. At the time of her discharge the opening into the abdominal cavity appeared to be closed, though there was still a small superficial wound at the lower portion of the original incision.

This case of suppurative peritonitis due to an unknown cause, cured by operation, is a good illustration of the recent advances in abdominal surgery. Although I did the operation under the impression that the origin of the trouble was an ovarian cyst, I should have been willing to do it had I known the exact condition of the disease, because such an encysted peritonitis as this evidently was, with the symptoms present, was almost certain to be followed by death. At least this is the reasonable conclusion when we consider the condition of the patient's temperature and pulse, and the fact that the peritonitis was so intense that her thighs were flexed upon her pelvis. We had, in fact, every reason to believe in a speedy termination of the case.

My experience in abdominal section and suture of the intestines for stab wounds, and the experience of Bull, Hamilton, and others in a similar treatment of gunshot injuries of the belly, together with my results in exploratory abdominal incisions, have convinced me that we are too ready to allow patients to die from intra-abdominal injuries. Rupture of the bladder, stab wounds of the intestines, gunshot wounds of the intestines, traumatic rupture of the intestines, perforating ulcers of the stomach, and even, perhaps, perforations due to typhoid fever, should be treated in many cases by immediate opening of the belly and local surgical measures.

This case is a contribution to the literature of the subject, to be added to the many cases similarly treated by gynæcologists. General surgeons do not, I think, fully appreciate the advantages which are gained by imitating our gynæcological brothers in the adoption of active surgical treatment for abdominal injuries.

Book Notices.

Rheumatism: its Nature, its Pathology, and its successful Treatment. By T. J. Maclagan, M. D. New York: William Wood & Company, 1886. Pp. viii–277. [Wood's Library of Standard Medical Authors.]

This work is by the well-known originator of the salicyl treatment of rheumatism—a treatment entirely novel in its time, and one which, though not realizing all that was once hoped for it, has nevertheless proved a true boon to suffering humanity.

The author devotes much space to the theories of the causation of the disease. He goes at length into the lactic-acid theory, which has for so many years swayed the professional mind, perhaps to an undue extent. The evidence in favor of this hypothesis he attacks with much vigor, and with an enthusiasm which at times eclipses his critical faculty. Unfortunately in this, as in most of the speculations on the pathogenesis of obscure diseases, there is too much "reasoning" and too little exact experimentation done. Few, we think, would, on mature deliberation, be inclined to follow the author in such hasty conclusions as are contained in the following passage (p. 41): "It is also a physiological fact that the nutrition, innervation, and functional activity of the muscles and fibrous textures of the joints are inseparably connected and indissolubly bound up together. It follows from this that inflammation and consequent increased metamorphosis of the fibrous textures of the joints are likely to be accompanied by a corresponding increase in the retrograde metamorphosis of muscle, and consequent increased formation of lactic acid."

Now it is by no means so evident that in articular or circumarticular inflammation the muscles are involved—in fact, the usual absence of purely muscular pain in rheumatism would contradict this assumption. Again, it is very likely that, owing to the slowing of the blood-current in inflamed areas, metabolism is retarded, not increased. This style of reasoning appears too frequently, and mars what is, on the whole, a valuable contribution to the study of rheumatism.

We are glad to see the germ or "miasmatic" origin of the disease subjected to a lengthy observation. The author fully supports this view of its causation, and the analogies existing between rheumatism and malarial fevers are well brought out. Of course, in the present state of our knowledge this can only serve as a provisional hypothesis. Experimentation alone can decide a point which, the more we consider it, seems *a priori* likely.

The chapters on treatment are, as might be expected, very full, and the author's large experience and careful investigation of the effects of the salicyl compounds give his observations peculiar weight. He enters at some length into the chemistry and into the actions of the different derivatives of that substance, and the adaptability of each to the cure of rheumatism. Preference is given to salicin over salicylic acid or its salts, since the former is free from those cardiac depressant qualities which often distinguish the latter.

A clear and interesting style pervades the book, and one is never for a moment left in doubt as to the author's exact meaning. As the record of the inventor of one of the most brilliant therapeutic triumphs of the century, this work will always command attention.

The Mechanism of Indirect Fractures of the Skull. By Charles W. Dulles, M. D., Fellow of the College of Physicians and of the Academy of Surgery of Philadelphia, etc. [Reprinted from the "Transactions of the College of Physicians of Philadelphia."]

This excellent monograph is a welcome addition to the literature of a long unsettled question, and is of special value just now, because almost all the more recent English and American authorities either describe the mechanism of indirect fractures of the skull in terms so vague as to leave the reader in doubt as to what view is really advocated, or adopt the "irradiation" or the "vibratory" theory. The "irradiation" theory, which really denies the occurrence of indirect fractures, is capable of direct disproof, both clinically and experimentally, and has been practically abandoned. The "vibratory" theory has never had much evidence in its favor, and has depended almost entirely on theoretical considerations. In Germany the "bursting" theory, first clearly formulated by von Bruns, and confirmed by the results of many experiments, notably those of Messerer and Greder, has been almost everywhere accepted. Dr. Dulles gives a clear and impartial *résumé* of the history of the subject, and then analyzes one hundred and nineteen cases, collected from various sources, in which a complete and reliable history of the case excluded the possibility of direct violence. All but eight presented fissures entirely in conformity with the "bursting" theory. The mechanical conditions are everywhere very clearly stated, unnecessary technicalities being avoided, and the very well arranged figures at the end, showing the direction of the fissures in all the cases, with a statement of the mode of injury in each, enable the reader to draw his own conclusions.

The Peroneal Type of Progressive Muscular Atrophy; a Thesis for the Degree of M. D. in the University of Cambridge. By Howard H. Tooth, M. A., M. D., etc. London: H. K. Lewis, 1886. Pp. 43.

It is the object of this interesting little pamphlet to establish as a distinct type a species of progressive muscular atrophy which, in many essential particulars, differs from the ordinary form. The common variety is characterized by wasting, beginning usually in the thenar eminence, by fibrillar twitching, and subsequently by the appearance of the degeneration reaction and deformities of the hands. The primary origin of the disease is in the central nervous system—*i. e.*, in the ganglion cells of the anterior horns of the spinal cord.

In the form described by Dr. Tooth, the atrophy begins in the muscles of the leg, usually in the peroneal group, the homologous muscles in the forearm becoming involved afterward. The fibrillar twitchings are not of such invariable occurrence as in the common form, and the disease is one of childhood and not, like the former, of adult life. The central nervous system is not involved, the affection apparently being of peripheral origin. In short, while the common type is a *myelopathy*, this is a *myopathy*.

Five cases observed by the author are reported, the histories of several of which are accompanied by illustrations taken from photographs, which show the atrophic changes very graphically. In all, seventeen cases have been collected.

No autopsies have come under the author's personal notice, but he gives reports of four post-mortems of what were evidently cases of this type. The cord was not at all, or only secondarily, affected, whereas there existed inflammation of the nerves of the affected extremities.

A copious bibliography forms an appendix.

Contributions to Surgery and Medicine. Part VI. The Principles of the Treatment of Fractures and Dislocations. By Hugh Owen Thomas. London: H. K. Lewis, 1886. Pp. 104.

The author takes the ground that hitherto a too mechanical view has prevailed in the treatment of fractures, "sufficient recognition not being made of the fact that it is living matter we have to influence." He maintains that with the increased skill in the construction of mechanical appliances errors of symmetry are more easily avoided. Yet, withal, the mishap of delayed or non-union has been more frequent.

In the treatment of these cases he advocates, to urge on repair, permitting the limb to resume the vertical position, and so favoring "tumefaction"; the use of interrupted compression—that is, "damming" the circulation of the limb by circular compression above and below the fracture, thus "relieving the fracture from compression within a small area circumscribing it." These methods may be supplemented by the employment of "percussion." This is performed by subjecting the fractured ends to a severe flagellation with an iron headed hammer, guarded by an India-rubber cap, the soft parts being protected with felt covering. The operation is so severe that it is necessary to etherize the patient.

He reports a large number of cases of delayed union and of non union. That the treatment pursued has contributed to this result there seems but little doubt. The operation for correcting knock-knee by section of the femur is deprecated. The risk is said to be too great for the benefits to be derived.

The reference to the treatment of dislocations is confined to what the author calls "simulated reductions." No satisfactory description is given of what is meant by the expression. In the reported cases where it has been used it might refer to breaking up adhesions, to reduction of the dislocation, or to fracture. At times the writing is vague and not easily understood.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

Baillière, Tindall, & Cox, London.—G., C., and A. Cresswell, "The Veterinary Pharmacopœia, Materia Medica, and Therapeutics." —— E. Courtenay, "The Practice of Veterinary Medicine and Surgery."

C. Griffin & Co., London.—A. H. Sexton, "Outlines of Quantitative Analysis."

New Sydenham Society, London.—A. Hirsch, "Hand-book of Geographical and Historical Pathology." Vol. iii. Transl. by C. Creighton.

F. Alcan, Paris.—Binet et C. Ferré, "Le magnétisme animal."—— E. Demange, "Étude clinique et anatomo-pathologique sur la vieillesse." (4*fr.*)

Asselin et Houzeau, Paris.—Lannelongue et C. Achard, "Traité des kystes congénitaux." (18*fr.*) —— P. Pottier, "Étude sur les aliénés persécuteurs." (3*fr.* 50.)

J. B. Baillière et fils, Paris.—Jaccoud, "Nouveau dictionnaire de médecine et de chirurgie pratiques." Vol. xl, completing the work. (10*fr.*) —— P. Cazeneuve, "La coloration des vins." (3*fr.* 50.) —— D. Cauvet, "Nouveaux éléments de matière médicale." (12*fr.*) —— R. Jamin, "Des fistules juxta-uréthrales du méat."

Barlatier et Feissart, Marseilles.—Sirus-Pirondi, "Considérations sommaires tendant à faciliter la revision du régime quarantenaire."

O. Berthier, Paris.—A. Peyer, "Atlas de microscopie clinique." Trans. by E. de La Harpe.

Bureaux du "Progres médical," Paris.—J. M. Charcot, "Leçons sur les maladies du système nerveux." Vol. iii, part 2. (9*fr.*)

A. Delahaye et E. Lecrosnier, Paris.—L. Polo, "De la perforation de la membrane du tympan et d'un nouveau mode de traitement." —— Gilles de la Tourette, "Études cliniques et physiologiques sur la marche."

O. Doin, Paris.—Corre et Lejanne, "Matière médicale et toxicologique coloniale." (3*fr.* 50.) —— A. Filleau et L. Petit, "Bulletin du laboratoire de recherches expérimentales et cliniques sur le traitement de la phthisie pulmonaire." (2*fr.*) —— Dujardin-Beaumetz, "L'hygiène alimentaire." (6*fr.*) —— Vulpian, "Maladies du système nerveux." Vol. ii. (16*fr.*)

G. Masson, Paris.—J. Marsoo, "Salies-de-Béarn et ses eaux chlorurées," etc.

J. F. Bergmann, Wiesbaden.—L. Mauthner, "Die ursächlichen Momente der Augenmuskellähmungen. Die nicht nuclearen Lähmungen." (2*M.*)

W. Engelmann, Leipsic.—E. Rindfleisch, "Lehrbuch d. pathologischen Gewebelehre mit Einschluss d. pathologischen Anatomie." 6th ed. (16*M.*)

A. Felix, Leipsic.—G. Berthold, "Studien über Protoplasmamechanik." (14*M.*)

W. Frick, Vienna.—C. Kreuz, "Pharmacognosie f. d. Erstunterricht mit Berücksichtigung d. österreich. Pharmacopöe u. d. zugeh. Commentars." (4*M.*)

S. Hirzel, Leipsic.—W. His, "Zur Geschichte d. menschlichen Rückenmarkes u. d. Nervenwurzeln." (2*M.*)

W. Kohlhammer, Stuttgart.—E. Dobel, "Canalisation. Anlage und Bau städtischer Abzugscanäle und Hausentwässerungen." (4*M.* 80.)

Leuschner & Lubensky, Gratz.—J. Herzog, "Der acute und chronische Nasencatarrh mit besonderer Berücksichtigung d. nervösen Schnupfens (Rhinitis Vasomotoria)," 2d ed. (1*M.* 50.)

G. Reimer, Berlin.—F. von Recklinghausen, "Untersuchungen über die Spina Bifida." (3*M.*)

J. Roth, Munich.—H. Seeliger, "Ueber d. Einfluss dioptrischer Fehler des Auges auf das Resultat astronomischer Messungen." (1*M.* 20.)

Schroter & Meyer, Stuttgart.—C. Custer, "Oeffentliche und private Gesundheitspflege in populären Vorträgen und Aufsätzen." (4*M.*)

Toeplitz & Deuticke, Vienna.—A. Reibmayr, "Die Massage u. ihre Verwerthung in d. verschiedenen Disciplinen d. praktischen Medicin." 2d ed. (3*M.*)

F. C. W. Vogel, Leipsic.—Von Pettenkofer u. von Ziemssen, "Handbuch der Hygiene u. d. Gewerbekrankheiten," 1st part, 2d division, 2d fasciculus. (6*M.*)

Wagner, Innsbruck.—"Berichte des naturwissenschaftlich-medicinischen Vereins in Innsbruck," 1884–'86. (1*M.* 80.)

BOOKS AND PAMPHLETS RECEIVED.

An Epitome of the Newer Materia Medica, Standard Medicinal Products, and Fine Pharmaceutical Specialties, introduced and manufactured by Parke, Davis, & Company, to which is added a Complete Property and Dose List of all Fluid, Solid, and Powdered Extracts, German Tinctures, Normal Liquids, and Concentrations prepared by them, together with a Complete Formula List of their Sugar- and Gelatin-coated Pills. Designed for the Special Convenience of the Busy Practitioner. Fourth Edition, revised and enlarged. Detroit: Parke, Davis, & Company, 1886. Pp. 76.

Ueber die Indicationen chirurgischer Eingriffe bei internen Krankheiten. Von Dr. M. Heitler, Docent ander k. k. Universität in Wien. [Separat Abdruck aus dem "Centralblatt für die gesammte Therapie."]

Report of the Chairman of the Section on Medical Jurisprudence. By J. D. Roberts, M. D., Goldsborough, N. C. [Reprinted from the "North Carolina Medical Journal."]

Insanity in the Colored Race. By J. D. Roberts, M. D., Superintendent of the Eastern Insane Asylum. [Reprinted from the "North Carolina Medical Journal."]

Hand-book of Practical Medicine. By Dr. Hermann Eichhorst, Professor of Special Pathology and Therapeutics and Director of the University Medical Clinic in Zurich. Volume IV, Diseases of the Blood and Nutrition, and Infectious Diseases. Seventy-four Wood Engravings. New York: William Wood & Company, 1886. Pp. vi–407. [Wood's Library of Standard Medical Authors.]

On Diseases of the Lungs and Pleuræ, including Consumption. By R. Douglas Powell, M. D. Lond., Fellow of the Royal College of Physicians, etc. Third Edition, rewritten and enlarged, with Illustrations. New York: William Wood & Company, 1886. Pp. xii–347. [Wood's Library of Standard Medical Authors.]

Reports on the Progress of Medicine.

CUTANEOUS AND VENEREAL DISEASES.

By GEORGE THOMAS JACKSON, M. D.

Resorcin in Eczema.—Dr. Chace ("Therapeutic Gaz.," Nov. 15, 1886) reports prompt and complete cures of eight cases of chronic eczema from the use of the following:

℞ Resorcin.................................... ʒ ij;
Glycerin.............................q. s. ad ℥ ij.

Sig.: Apply with camel's-hair pencil morning and evening.

Ichthyol in Lipoma.—Dr. Schmidt (*ibid.*) reports the transformation of a lipoma into an abscess by rubbing a 50-per-cent. solution of ammonio-sulphate of ichthyol into the tumor. The abscess was treated on ordinary surgical principles, and readily healed.

The Dietetic Treatment of Eczema.—Professor Schweninger ("Charité-Annalen," xi; "Mntshft. f. prakt. Dermat.," Nov., 1886, p. 521) believes in dieting eczematous patients, but not after any hard-and-fast general dietary laws. Each patient must be treated according to his case, and at first be put upon as simple a diet as possible. When this basis is reached, the patient's taste is to be consulted and his diet made more varied, care being taken to avoid anything that is known to disagree with him. Sometimes it is advisable to have a patient increase the number of meals in a day, while decreasing the quantity of each one. Some patients do best on solid food alone, leaving out tea, coffee, and the like. Sometimes the best results are obtained by having the patient eat of only one sort of food at a meal—whatever he fancies. In many cases of chronic eczema a liberal supply of water, or rather of fluid, is useful, and this not taken at once, but often in small quantities. Up to three quarts of fluid may be taken in this way. The addition of salt to the dietary is also useful.

Ætiology of Alopecia Areata.—Upon the vexed question of the ætiology of alopecia areata Dr. Max Joseph has endeavored to throw light by means of experiments ("Monatshft. f. prakt. Dermat.," Nov., 1886, p. 483). He believes that the disease is caused by a disturbance of the nutrition of the affected part through the influence of the trophic nerves. He has uniformly produced in the cat appearances similar to those seen in alopecia areata in man after extirpating the spinal ganglion on the second cervical nerve. The phenomena of the hair-fall occurred in from five to twelve days after the operation.

Treatment of the Tineas.—Dr. Morrow ("Jour. of Cut. and Ven. Dis.," Nov., 1886, p. 321) has had most success in treating both favus and ring-worm by epilation, followed by an ointment of chrysarobin ten per cent., and salicylic acid five per cent. His preference is for these drugs, either singly or in combination, in collodion or traumaticin. In parasitic sycosis he epilates and applies an ointment of iodide of sulphur, thirty or forty grains to the ounce.

Importance of the Use of the Absolute Galvanometer in the Destruction of Superfluous Hair by Electrolysis.—Dr. Prince, in a valuable contribution to the "Bost. Med. and Surg. Jour." of November 4, 1886, says that the production of scars, however small, in the operation for the removal of superfluous hairs by electrolysis, is due not so much to individual peculiarities of skin as to the use of currents of too great strength. He draws attention to the great variability in strength of currents from the same number of cells, and this not only in different batteries, but in the same battery under varying conditions. Therefore the usual direction to use a certain number of cells in the operation is not definite enough. Nor is it proper to judge of the sufficiency of the current by the occurrence of effervescence about the needle, since this may not show itself in some cases, and, further, the hair can be destroyed without the chemical action going so far. A current of one milliampère passing from two to three seconds is the best. The current should never exceed two milliampères. If the hair is not destroyed in that time it is because the needle has not been accurately introduced. A sponge electrode should not be used, as the water is soon squeezed out of it; and the positive electrode should not be held in the palm, on account of the resistance of the thickened skin, and the unevenness with which the patient presses. To obviate these defects a large electrode, covered either with chamois-skin or a thin layer of absorbent cotton, should be fastened to the forearm.

Treatment of Chronic Ulcers.—Dr. A. S. Reynolds recommends ("Med. News," Oct. 9, 1886, p. 393) the subiodide of bismuth as a dressing for ulcers. He has found that "it controls inflammation, allays irritation, suppresses suppuration, promotes granulation, and induces cicatrization." It is bland and unirritating, and may be used on any surface. He regards it as almost a specific for acute and chronic ulcers. Its action is assisted by the removal of pathological elements which would retard or impair healthy tissue formation. Before using it he supports the varicose veins in a varicose ulcer; destroys the new growth in a lupoid or epitheliomatous ulcer; applies chloral to an irritable ulcer, and a five-per-cent. salicylic-acid powder to a readily bleeding ulcer; resolves exuberant granulations with bromide of potassium; cuts down callous edges with salicylic acid or the knife, and stimulates atonic syphilitic ulcers with nascent iodide of mercury. In the majority of cases the subiodide of bismuth alone will be sufficient.

In applying the dressing, the surface of the ulcer is first to be washed and thoroughly cleansed, disinfected, and then dried. The powder is dusted over all, either alone or in combination with any other powder, such as calomel, salicylic acid, or bromide of potassium. The limb is then strapped with adhesive plaster for an inch above and below the swollen or inflamed part. Over all a firm bandage is applied. The dressing is changed in from one to four days. When the ulcer looks healthy, dress the granulations with the subiodide, protect with a Maltese cross or perforated square of plaster, cover with a thin layer of absorbent cotton, and again apply the bandage.

Lichen Ruber.—Dr. Boeck, of Christiania, has found ("Monatshft. f. prakt. Derm.," Oct., 1886, p. 435) lichen ruber to be much less frequent in Norway than it is in Germany. He has only seen seven cases in eleven years. As met with by him, lichen planus was most frequent, though he has had two cases in which the acuminate form of lichen ruber occurred in combination with the flat form. He believes that lichen ruber planus and lichen ruber acuminatus are but forms of the same disease.

The umbilication of the papule in lichen ruber planus may arise, according to our author, in one of several ways. In some cases in which the cutis and especially the papillæ are more than usually infiltrated with cells, some three or four of the papillæ in the middle of the papule become flattened out by swelling and expanding; the layer of epidermis over them is likewise stretched in a horizontal direction, becomes thinner, and hence sinks below the level of the surrounding skin. Besides this mode of umbilication, in some cases disturbed nutrition may give rise to diminution of the thickness of the epidermis and its sinking in; but this is always combined with a stretching of the epidermis in a horizontal direction. While the epidermis becomes thinner, the corneous layer is always much thicker than that of the surrounding parts, which is probably due to excessive nutrition of the epidermis at the beginning of the process. In the middle of one papule examined there was found a pair of greatly hypertrophied interpapillary projections running deep down between the papillæ. Here it was thought that a consecutive cornification and throwing off of the cornified products could give rise to the formation of the umbilication.

Impetigo Contagiosa.—Dr. Beall, of Fort Worth, Texas, contributes a valuable paper upon this somewhat vexed subject to the August number of "Daniel's Medical Journal." The paper is founded upon his own observations, made during two epidemics of the disease. In the main his description of the malady accords with that found in most text-books. He found that an incubation fever was often wanting. If present, it generally lasted two or three days before the vesicles formed; then some six or eight days would elapse before the fall of the crusts following the vesicle formation and desiccation. He met with one case in which the maculation, which always is left by the fall of the crust, lasted three months. When the lesions occurred on the chin or face, the disease was more protracted than when they appeared elsewhere. He believes that the disease is dependent upon a peculiar micro-organism, and is not connected with vaccinia in any way.

Microscopical examination of a crust stained with eosin showed an abundance of epithelium and fibrous tissue, oil globules and crystals of margarin; and, scattered throughout, numerous minute round and oval bodies, which, he considers, are the micro-organisms directly causing the disease. In white light these organisms are colorless, highly refractive, spheroidal and ovoidal in shape, $\frac{1}{8000}$ to $\frac{1}{5000}$ of an inch in diameter, and disseminated singly or in pairs. Beall believes that the disease penetrates the epidermis and papillary layer of the skin, and involves to a limited extent the superficial layer of the corium. He has found the identical organisms in the fluid from a matured vesicle. The treatment recommended is an occasional warm bath, and the use of an ointment containing sulphur and ammoniate of mercury.

Gonococci.—The manner in which gonococci give rise to specific urethritis is thus given by Dr. Bockhart ("Monatshft. f. prakt. Dermat.," Oct., 1886, p. 449): By the infecting contact the gonococci land upon the pavement epithelium of the fossa navicularis, where they thrive and increase. They then rapidly press downward between the epithelial cells toward the papillæ of the mucous membrane, loosening the epithelial layer on their way through it, destroying some of its cells, and causing many of them to be shed, thus producing little apertures. Within eighteen hours at most the gonococci reach the papillary portion of the mucous membrane. During this process the secretion from the urethra is clear, and contains epithelium and a few gonococci, either isolated or seated upon an epithelial cell. But now the gonococci, by their presence upon the papillary portion of the mucous membrane, induce a reaction on the part of the blood-vessels; white blood-corpuscles escape from them, in which the gonococci increase and form little round heaps. The urethral discharge is now sero-purulent, and consists of pus cells, epithelium, and gonococci. Now the gonococci enter the lymph spaces of the mucous membrane, and press into its deeper layers, increasing rapidly. With this there is a great increase in pus cells, and the discharge is composed chiefly of them, the gonococci being few and only in the pus cells in the form of heaps. The constitution of the mucous membrane is slowly very much altered by the migration of the pus cells. These take up more and more of the gonococci, and carry them out in the secretion, which then consists only of pus cells with heaps of gonococci, the loss of epithelium having ceased.

In the light of these observations, Bockhart does not believe in abortive treatment, as at the time the patient presents himself the infection has gone too far.

Miscellany.

Cholera, and the Duties of Governments and Countries during Epidemics.—[Our consul at Palermo, Mr. Philip Carroll, has transmitted to the State Department the following translation of a pamphlet issued by Professor E. Albanese, president of the Sanitary Council of Palermo. Notwithstanding the amount of space it takes up in our columns, its importance seems to be such that we have concluded to publish it entire.]

Typhoid and scarlet fevers, diphtheria, small-pox, cholera, etc., seem now to have made their abode in Italy. The country remains unprovided with sanitary laws, and the Government, lacking ætiological and hygienic knowledge, makes provision only when any disease appears, and nearly always in consonance with the impression of the moment, issuing confusing or conflicting decrees and unseasonable instructions, which are nearly always useless. Thus the cholera has its sway, spreading here and there and often making great havoc. Cities are terror-stricken and force the Government to impose quarantines and improvise cordons, and occasionally give way to deplorable excesses, discouragement, etc., often fatal in their consequences. The sanitary authorities of the kingdom, the Superior Sanitary Council, communal and provincial sanitary councils, the Minister of the Interior, prefects, and mayors frequently provide contradictory measures, issuing regulations of no efficacy in preventing the spread of infectious diseases. It is useless to relate the detrimental effect of this practice. Many of the regulations are carried out by force, but, worst of all, by foolish busybodies* or by charlatans, to whom the ministry, through lack of understanding and through dangerous condescension, intrusts the study or examination of such and such an epidemic, to the discredit of the science of Italy; and the same may be said respecting the inexact reports, written carelessly by a person whose duty it was to ascertain the facts and things, especially when it was a matter of historical and statistical inquiry.† And so much for cholera.

As to diphtheria, scarlet and typhoid fevers, small-pox, and other infectious and contagious diseases, it is saying a great deal if a few hospitals have established separate infirmaries, and if a few individuals, foreseeing the coming evil, are thinking for themselves and providing as best they can for the disinfection of their houses. The misguided country actually cherishes the hope that the disease which is now prevailing will shortly leave us, or will end by becoming acclimatized, and thus lose its present severity. But one may hope in vain. The cholera will not abate so quickly; many Italian cities will still have to lament for their neglect; and most probably diphtheria, typhoid and scarlet fevers, etc., will never leave us if we do not provide against them earnestly and intelligently. It is true that we are accustomed in Italy to the fatal consequences of typhoid and scarlet fevers, and diphtheria, which interruptedly assume an epidemic character. But I fear we can never become accustomed to cholera; the fact is, the results will be always very serious, and it is therefore necessary to provide against them with care. History shows us that, whenever cholera has appeared in Europe it has always remained for several years together; in Prussia, an epidemic raged during twelve years, viz., from 1848 to 1860. But, once the present epidemic has been stamped out, who will assure us that there will not be shortly another importation thereof from India? Within half a century—*i. e.*, from 1835 to 1884—Italy has been invaded six times by the cholera, and on each occasion it lasted three or four years. Now that commerce has increased, and has rendered communication by sea easier and shorter, it is to be presumed that visits of a similar nature will be more frequent. One should not therefore cherish vain hopes, nor be satisfied by recurring to more or less uncertain expedients; one must seriously think for the future, and protect public health with good laws and efficient regulations.

Shall we still rely upon quarantines, and upon them alone? Putting aside the necessity of commerce, at the present time, the traveling of people to and fro is so continual, rapid, imperative, and important that it is quite impossible to arrest it by means of cordons and lazarettos. It is true that quarantines would be useful on the Isthmus of Suez;

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* See L. Brunetti's "Report to the Minister of the Interior" upon the cholera in Sicily during 1885.

† Professor Pagliani, "Report upon Researches as to the Manner in which the Cholera Epidemic was introduced into Palermo, and its Spread in the Year 1885," addressed to the Minister of the Interior and published in an appendix to the official report on the cholera in Italy in 1884–'85, by G. B. Morana, M. P., Secretary-General of the Ministry of the Interior.

this I affirm, and I desire our Government should insist upon such a guarantee. But events have thus far shown that they have been insufficient on the Red Sea, either because the guard was not vigilant enough, or because there was reason to elude it, which is frequently done by force. The fact is, the whole of Europe, which is interested in preventing the introduction of cholera, failed in its attempt to guard Suez. Europe would not be totally secure, even if quarantines were to be maintained at Suez and if the "Maritime Sanitary Council" were to be re-established. We might be secure from the sea, but how could we guard against the approach by land? One must not forget that cholera travels also by land, that it was in this manner that it first reached Europe, and that by following the same route it returned in 1869 and 1870.

We then had occasion to see how the famous cordons worked, and how the trial made in Alexandria in 1883, and on the Italian frontier in 1884, not only proved insufficient, but dangerous on account of the facility of contamination thereby, for which reason they became the centers of the disease. It appears to me, without being other than a simple localist, and believing that the doctrine of the contagionists, in its present state, is worthy of the greatest consideration, that to place one's whole trust in quarantine is a mistaken system of defense. If one could have all the money back which has been thrown away on quarantines and cordons, as well as compensation for the losses sustained by commerce in consequence of the damages caused by these measures, there would certainly be sufficient capital at hand for hygienic purification; if, therefore, the money and time which have been wasted had been employed in purifying certain towns, certainly the cholera or any other infectious disease would either have disappeared or would no longer cause the violent destruction of life which we still lament in so many places.

At present there are but few who believe in quarantines, and fewer still who trust in cordons. There has even been a rupture in the "Sanitary Maritime Council" in Egypt,* and it will be difficult to remedy it, because it is brought about by the economical and military interests of certain nations, and because it is based upon a diversity of opinion existing in high medical spheres, both civil and military, in England, as to the manner in which cholera is developed. And this want of trust will be still more marked and will end by convincing the greater part of the world, which trusts in quarantines, etc., when the new theory of microbes is universally accepted. All hygienists admit that infectious diseases are due to microscopic living beings, which belong to the class of *schizomycetes*, and are named, according to their forms, micrococci, bacilli, bacteria, vibriones, and spirilla. If these infinitely small beings penetrate, even in small numbers, an individual who is predisposed to contamination, or if they fall on a fertile field for their cultivation, they rapidly increase and produce an epidemic.

Now, when every one understands and appreciates the gravity of the fact that 30,000 millions of these creatures hardly weigh a milligramme when dry, then the movers of quarantines and those who at the first alarm of cholera begin to vociferate as loudly as they can, will, I am certain, recognize the uselessness of quarantines, or at least they will no longer feel secure when a quarantine has been established. There would be no more custom-houses if a decimetre of contraband stuff, after entering a place, were to suddenly become millions of metres, and there would be no more excise duty if a single lamb, after being secretly entered in a town, were to suddenly become a numerous flock. For the same reason there will be no more quarantines, or at least their efficacy will be doubted, when it is in the power of every one to comprehend the serious destruction which a thousandth part of a milligramme of microscopic beings can cause, and when everybody understands that these invisible beings can be preserved in given conditions of life and activity for a very long period, and can penetrate the strongest barrier, whether attached to part of a garment, or existing in a rag, or in a little water, or in any object whatever.

With regard to the cholera, for which Europe continues to talk of quarantines, and with which Italy especially is preoccupied, there are two theories as to the mode of its propagation—viz., the localist and the contagionist theories. The theory of spontaneous development, which was last supported by Gruérin, at the Academy of Medicine of Paris in 1884, has been completely annihilated. Localists and contagionists admit the parasitic nature of cholera, and agree in the belief that the evil originates in India, and that it is carried by human beings and commerce; but the two theories differ widely as to the manner in which an epidemic is developed. Von Pettenkofer and Cunningham, who are the exponents of the localist theory, believe that cholera becomes an epidemic according to special circumstances, places, and seasons, and they hold that the infectious agent is derived from places abounding with cholera, and not from the person attacked by cholera, so that the cholera germ (these are von Pettenkofer's words *), "adhering to articles of commerce in an unknown form, to be determined by bacteriologists, develops itself when it finds a fertile field, and becomes a new cholera-disseminating focus, which gives rise to epidemics, or a sterile field, when the introduction of the germ has no effect." The contagionists, in whose ranks stand Fauvel, Brouardel, Koch, Proust, and nearly all the great physicians of France and Italy, believe that the cholera, conveyed by commerce, produces epidemics through the contagion of human beings and contaminated objects, and that everything can convey the disease—the atmosphere, the soil, and especially potable and river water. In my belief, contagionists and localists have both erred; the former in having wasted so much time and labor in trying to demonstrate that quarantines and cordons were the only means of preservation, and the latter in persisting in combating them, and studying nothing but the causal states of localities.

At present the question has taken on a new phase, which will be of great benefit, a current of attraction having manifested itself between the two doctrines as to the necessity of hygienic reform, and both contagionists and localists agreeing upon this essentially vital point. It is useless to enter here into details on the two doctrines; I will, however, keep close to the practical part of the question, in order to show, in as precise a manner as possible, what particularly interests our country, in which the cholera seems specially inclined to settle. I will make no allusion to certain important discussions, being sure that ample light will be thrown upon them, as well as on the facts observed, and on the practical studies just initiated. I believe that, without distinguishing if the microbe, or cholera germ, is precisely the one described by Koch, Emmerich, Pacini, or any one else, it must be considered to be one of those microscopic creatures, capable of reproducing itself in various degrees of activity, either in the interior or on the exterior of organisms, a fact which is demonstrated scientifically and experimentally respecting all pathogenic, infective, and diffusible microbes. This germ, if I may be allowed the comparison, has the quality of amphibious creatures, and will produce an epidemic if it can find the conditions necessary to its development in a non-hygienic center, or limit itself to single sporadic cases, when it only attacks single individuals who are predisposed to receive it, but who dwell in a comparatively healthy center. The condition of individuals such as those subjected to impure water and unwholesome nutrition, or a disease such as diarrhœa, etc., is favorable to the development of cholera. Other favorable conditions may be found according to circumstances of time and place, as explained by von Pettenkofer and other localists, and, at given periods, in any other circumstance favorable to the propagation of infective pathogenic microbes, due to hygienic conditions of a particular place, and especially to the condition of houses in which the poor congregate and lead a miserable life; also to the nature of potable water, and the manner in which it is conveyed; to river water, if it runs slowly, and if the inhabitants employ it for domestic use; to the state of wells if they are sunk in porous soil, and if the level of the water is near a stratum of subsoil impregnated with organic matter; and to all other circumstances which are recognized to be injurious to life in general—besides which, the crowding of miserable individuals in filthy localities, and under certain influences, vitiated by unhealthy places, and the habits of large towns, constitute in themselves a most dangerous center for the development and propagation of any infective disease, and especially of cholera. This is what I call a fertile and prepared field for the development of infective diseases. And I could bring to bear upon the subject thousands of facts, collected by myself and colleagues with the greatest care,* during the epidemic which raged in Palermo and the bordering districts in 1885; but I stated that I should not enter into details here, and will refer the reader to my report on that epidemic, which is being printed.

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* See "The Cholera in Egypt in 1883: its Origin and Hygienic and Quarantine Measures," by Dr. S. V. Decastro, Milan, Vallardi, 1884; and Professor Fauvel's report to the Academy of Medicine of Paris, "Bulletin de l'Académie de médecine," séance du 24 juillet, 1883.

* "The Cholera," by Max von Pettenkofer. The author's preface to the Italian translation, by U. Mosso, Turin, Loescher, 1885.

All this which I admit respecting epidemics makes me at the same time both a localist and a contagionist, as I admit and hold as demonstrated regarding epidemics that which has been demonstrated on the artificial cultivation of pathogenic infective microbes. Virchow observed, in speaking about the "morva" and hay bacilli, that in different periods and circumstances these bacilli possessed different degrees of virulence. Héricourt and other experimental hygienists † have demonstrated the influence which surroundings exercise on the cultivation and propagation of the various microbes. In fact, every one knows that certain given influences change the conditions of life and activity, even among human beings of the most elevated classes.

In the artificial cultivation of microbes, by varying the intensity of the light, the degree of heat, the degree of humidity, the quantity of oxygen and other chemical agents, and subjecting the microbes to the influence of the same for a longer or shorter period, and by placing them in special broths and gelatins prepared for their cultivation, one obtains visible variations in the degree of activity of the germs under consideration, so that their virulent properties may be modified and even neutralized, as Pasteur and others have demonstrated with respect to cholera in fowls, anthrax, and the "rouget" of swine.

In the present state of science, I am justified in considering my way of looking at and explaining the development of epidemics, which might seem an hypothesis, to be the true way. Héricourt says that it serves very well for the exact interpretation of facts, and that it would be acceptable, even if it were an hypothesis, as it does not go beyond the deductions which one can properly draw from facts established by experiments and from observations made on the causes of the weakening and revival of viruses—*i. e.*, of pathogenic infective microbes.

Experience teaches us that epidemics cause greater destruction of life where hygiene is neglected, and that those places which have been visited by infective diseases, and especially by cholera, once purified by means of proper laws and sanitary regulations, have escaped the recent invasions of cholera. Thus, in Italy, the last invasion of cholera has by preference struck the most neglected spots, and will certainly continue to make havoc where nothing was done, or where that which was done was performed imperfectly, and regardless of common sense.

One must speak the truth, whatever it may be; during the last twenty-six years, in which Italy has been free, the Government has never occupied itself with public health. In certain towns there has been praiseworthy action, due either to individuals or to unknown majorities, but the country in general, as well as its government, has been unable to think for itself. In many towns, and I will cite my native town, Palermo, everything was erroneous; instead of purifying the towns, public promenades, gardens, theatres, of which one, the "Massina," is still incomplete, useless public markets were made or erected. This was a great mistake to the detriment of public health. Hygienic regulations were also erroneous, and the duty of keeping the towns clean was intrusted to persons totally ignorant of the elements of hygiene, who, instead of promoting the public welfare, were the cause of public nuisances; so that, when it was found necessary to suspend the noxious system employed, which caused public discontent to such a degree that open and serious demonstrations ensued, everything was abandoned, and, excepting the cleansing of the main street, matters were left to follow their own course.

After twenty-five years of existence, the famous *fondaci* * of Naples were discovered through the benevolence of the King, and in Latium, after twenty-six years, two ministers and a secretary-general discovered the famous *ortali*. And in order to discover these shameful things, great public calamities, the presence of a King, and the humane visit of certain ministers, were necessary.

The *fondaci* of Naples exist in Palermo under the name of *catodii*, in which a hundred thousand half-naked and starving inhabitants live in worse conditions than animals. The *ortali* of Latium are the dung-heaps of nearly all the houses of the smaller districts of the center of Italy. In Sicily, Napoletano, Puglie, Abruzzo, etc., animals dwell in the same rooms with the people who own them; the people live with their donkeys, cattle, poultry, swine, etc. In many places the refuse and excreta of both man and beast are allowed to accumulate in the streets near the houses; chamber-pots are emptied from the windows into the streets, and the person and linen are washed in river-water or the gutters, or open water-courses, which pass close to the dwellings. Many places lack potable water altogether, or have it conveyed to them in an impure state, so that they easily become contaminated, and organic matter and rain-water, in which linen is washed, find their way in.† Either the houses in Italy do not possess water-closets, or those which do are without traps or hydraulic valves, and I believe, without exaggerating, that one could count the houses which are supplied with water-closets. The closets are generally composed of a hole, which is in direct communication with a cess-pool, or with a most deficient system of drainage. In most districts public hygiene is but an empty name, and the cleansing of many towns is but a municipal luxury, and merely to keep some hundred persons from starving by employing them to sweep the streets, etc. Mayors, prefects, councils, and sanitary commissions allow matters which refer to public health to slumber in peace, and, what is worse, they have allowed, in a town such as Palermo, during the last twenty years, the erection of a new quarter, famous for its pompous name, the *Borgo Nuevo*, without municipal surveillance or hygienic precaution. Whoever visits that miserable slum is disgusted and goes away quite horrified. Houses are run up there without the slightest symmetry; the streets—where for the most part slops and refuse are cast—are made without conduits to carry off the rain-water, etc., and the inhabitants are huddled together with their animals. Potable water is wanting there, and organic matter and putrefaction penetrate into the wells which supply drinking-water to the people. Not only are the houses without light and ventilation, but the streets are real labyrinths through which it is difficult to pass, on account of the accumulation of filth. It is needless to say that, when an infectious disease visits such a slum, it generally remains there for years, and that typhus and diphtheria never leave it. As might have been foreseen, the cholera committed immense destruction in this place during the last epidemic. The municipality is now thinking of reforming it, but there are no laws for that purpose. Who ever occupied himself with this subject? Who ever thought that about one third of the population of Italy lived in miserable hovels? A newspaper has occasionally spoken on the subject, some philanthropists have revealed a part of these miseries, but they were allowed to talk, and things were left in the miserable condition in which they were found. When the scourge rages and cuts off thousands of lives, then it is that one sees a patriotic advance of charity. The King, ministers, ecclesiastics, and subjects of all parties and parts of Italy make a rush; every one then talks of the common woe, and enormous sums are scattered to assist the afflicted, for whom the riches of Crœsus and Solomon would not be sufficient. The King and the country sympathized when Naples suffered, and, instead of advantage being taken of the misery revealed by the calamity suffered by Naples, a great sensation was created, but it subsided upon the vote of a law to open and reform the drains! Why was so much pity bestowed upon Naples alone? Are there not many other places in Italy in the same condition? Why make a special law for one place and not a hygienic law to improve the sanitary condition of all Italy? It was thought that to extend some of the articles of the special law for Naples to certain other towns when they asked for them would be sufficient for the general requirement. We require a general law, and, having to make a law, we make a special one, without established principles, without precise understanding, and we issue this law to purify one single town! In consequence of this law we shall have no good, but evil, as this is not a law which can or can be expected to purify the whole of Italy, since it will probably not even purify Naples completely. It will certainly beautify and cleanse Naples, and will create a painful precedent. But I doubt if the enlargement of streets and the building of new houses, without due attention being paid to the hygienic portion, will suffice to improve the sanitary condition of the place. In order to improve the health of a place, laws are required to provide for general as well as private hygiene—a law which constantly inspects the interior of private houses, a law which controls schools, hospitals, public buildings, workshops, mines, etc. In order to improve the health of a place and to maintain it in a proper condition, a well-regulated and organized service is also required, and such sanitary commissions as can cause these laws to be executed and can compel every one to obey the same, whether administrators or directors of public buildings, institutions, or factories, etc., or private individuals.

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* During the epidemic of 1885 in Palermo, the "Extraordinary Municipal Sanitary Commission," of which I was the president, appointed, among its members, a sub-commission composed of Dr. Sebastino Reyes, Professor Giuseppe Coppola, and Professor Vincenzo Cervello, to collect all the information relative to that epidemic, and to ascertain the historic facts as to its propagation, with such documents and testimony as could be obtained. This commission at once issued a list of questions to all the physicians practicing in the place, and placed itself in communication with the local authorities. It was ascertained: 1. That cholera was imported into Palermo in 1885, and in the month of August, by the steamer Solunto, which came from Marseilles, and which had on board a slight case of cholera that was not declared during the quarantine undergone in the Gulf of Asinara. 2. That it was verified that the Solunto was the cause of two original centers of contamination. One was in Vicolo Cannata, at the Borgo, where the soiled linen of the crew of the said vessel was washed, in consequence of which the first to be seized by the disease was the wife of a certain Ferri, on the 26th of August; and the other was in Vicolo Santa Cecilia near Piazzi della Rivoluzione in the Tribunale quarter, where the linen of the firemen of the same vessel was washed, and, not having been returned, was discovered when it had been already washed and hidden by a woman, whose cousin, Giuseppe Spataro, was attacked by the cholera on the 5th of September, and died on the morning of the 9th. 3. That the epidemic spread principally in Vicoli Cannata e Gilberto, at the Borgo, from family to family through contagion, and elsewhere, on account of the persons who fled from the said places, or through linen which was carried away from the Vicoli and washed elsewhere.

† M. J. Héricourt, "Influence des milieux sur les microbes." "Revue scientifique," No. 17, October 24, 1885.

* The *fondaco* is that pestilential conglomeration of huts made of mud, without air and with little light, in which one fifth of the Neapolitans take shelter at night. The *ortale* of Latium is a heap of refuse and dung accumulated and kept in bedrooms. The *catodio* of Palermo is a miserable hovel, made of mud, often without any sort of pavement, without windows, with barely any light, and in which the atmosphere can not be renewed, in which numerous half-naked and starving families dwell.

† When it rains for two or three consecutive days in Palermo, the potable water reaches every house in a muddy state, on account of the defective system of conveyance, which is so badly organized that some sources which are open are used by washerwomen for the cleaning of linen, etc.

The law which I would like to see quickly promulgated in Italy exists in England, and was published in 1875 (Public Health, 38 and 39 Vict., 1875), and has been in force throughout the great United Kingdom during the last ten years or more. Since that time England has been free from cholera epidemics, notwithstanding her continual communication with India and with the whole of Europe, without the difficulty of any such things as quarantines; and typhus fever, scarlatina, and other infective fevers do not exist any more in the form of an epidemic. I believe that the desire for a similar law will shortly become general, and, if the present outbreak of cholera, with all its destruction, brings us this benefit, it will be so much gained. I trust that the Government and the representative of the nation, at the opening of Parliament, animated by the hygienic requirements of the country, will occupy themselves with solving this most important question, which has now become the subject of general feeling.

The late Dr. A. Bertani, an illustrious patriot, had prepared a hygienic code, and it is urgent that this projected law should be published soon, so that competent persons may study and discuss it. The lives of thousands of subjects and the reputation of Italy are at stake. But I repeat, if the hygienic law aims at the improvement of the country, in order to drive epidemics away, it is necessary that the houses should be seen to first of all, without which no general law will be of use. One must above all bestow attention and labor upon houses. And, in conclusion, I will cite an instance which localists and contagionists often refer to, which strengthens their doctrine. At Fort William, in Calcutta, cholera reigned every year in the form of an epidemic, and cut off thousands of soldiers who were garrisoned there. This fort was a regular cholera center, and, as it is situated in a cholera territory, the hope of ridding the place of the disease referred to was almost abandoned. At present, however, that fort, which is still in the same place—viz., in the center of Calcutta, which is annually visited by cholera—has become quite free from the attacks of the disease. Localists say that this is due to the fact that the barracks were rebuilt according to hygienic laws and principles, and that the subsoil was rendered healthy by means of proper drainage. Contagionists, however, believe that it is due to the sinking of new wells, which supply pure and filtered water. I believe this result was obtained by all that was done for sanitary improvement. And I only hope that in Italy every house and place may become a rock of health such as the famous fort of Calcutta.

The new law on hygiene and epidemics, of which the country stands in such need, no matter how much it may be desired or how quickly it may be put in force, can not upon its decree purify the whole country as if by magic. Several years are necessary before it can produce beneficial results. We have now had cholera in our country for three years, and we have seen what the sanitary law of 1865 provides;[*] we therefore feel the need of wise sanitary regulations, in order to arrest or avert the great danger which ruins our country. Such regulations, as well as the new sanitary law, should be based upon recent progress in science, so that, while they inculcated sanitary service, imparted some knowledge, and rendered epidemics less destructive to human life, they might also serve to facilitate the execution of the hygienic law. The urgency of such regulations is indisputable, and it ought not to be necessary for me to demonstrate the extreme necessity therefor.

The sanitary service of the kingdom is based upon the law referred to, divided into two categories—external and internal services—supreme authority being vested in the Minister of the Interior, who directly provides for the protection of health by means of maritime sanitary laws, and indirectly for the internal sanitary service through prefects and mayors. The sanitary service for ports and shores for arrivals from the sea is regulated by international convention, which for the most part has ceased to be in force on account of the disputes in the International Quarantine Commissions of Egypt and Constantinople, to which the sole line of defense against the approach of cholera from India was intrusted. The sanitary service of the ports is really intrusted to harbor-masters, who are assisted by a few doctors and guards. The service is generally limited to the issuing of bills of health and to admission to free pratique of vessels arriving. When a vessel comes from an infected or suspicious place, or declares disease on board of a suspicious character, then begin the duties of the port doctor, who, furnished with a gold-striped hat, inspects the persons on board. Passengers and crew are called on deck, and placed in straight lines against the bulwarks, and the doctor then examines them from a boat, which stands off at a certain distance. I have assisted at these sanitary inspections, and have also been subjected to them as a passenger on board. There is hardly anything more ridiculous, and on board it is an occasion of general hilarity. The sanitary inspection is methodically repeated at every port, and for vessels in quarantine it serves for the admission to free pratique. Recently mail steamers, which touched at various islands, were obliged to have a doctor on board, but they were poor doctors, chosen by the owners of the steamers; they have no authority whatever, and I therefore believe it to be a perfectly useless expense. I traveled on one occasion with a doctor on board, and I really was not aware of his presence; on another occasion the ship's doctor was one of my pupils, who had taken the matter very seriously, and wished to visit every one and expected the sailors to do their own washing every day. But the captain begged him not to worry people, which naturally cooled this young man's enthusiasm, who thought he was simply doing his duty. The *lazzeretti* for the undergoing of quarantine have been abolished, or at least those existing have been declared unserviceable, and quarantine is undergone on board, in a port or in a roadstead expressly designated by the Minister of the Interior.

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[*] The general sanitary law of March 20, 1865, and the regulations for the execution of the same, dated June 8, 1865, and June 22, 1874, do not directly provide for any sanitary system. The protection of public health is intrusted to the Minister of the Interior, prefects, underprefects, and mayors, and, with regard to epidemic and contagious diseases, Chapter II and part 4 of said law and the 82d and subsequent articles should provide, but, on the contrary, they do nothing of the kind; they simply confuse the authority of the Minister, prefects, and mayors, with certain routine instructions. The country has witnessed how and when they can be of any use during the epidemic which has raged here for the last three years.

It is needless to describe the laws governing quarantines, as the very ancient ones for the pest are not yet officially abolished, and I am not aware of any new ones; such a service is generally intrusted to a retired sea-captain and to sanitary guards who are as zealous as were the historic guards of the Holy Sepulchre. The duration of quarantines for the islands upon arrivals from the Italian continent is not fixed by any international agreement, neither is it established according to any law; it is, however, fixed by the Minister of the Interior, and does not generally satisfy the people. The Government often seconds the requests and occasionally refuses at the risk of disturbing the public order of certain places where it is firmly believed that quarantines are the sole safeguard. For these reasons many really have believed that public health in the islands was safe; but I believe that the cholera would have kept away even without the quarantines. The cholera developed in Palermo last year in spite of quarantines, and was imported by the steamer Solunto, which came from Marseilles, after having been subjected to seven days' quarantine in the Gulf of Asinara, and after having visited the ports of Leghorn and Naples in safety. I do not wish to speak of the inconsistency of the Government. This is solely to be attributed to the want of a sound sanitary law, in consequence of which, when quarantines and cordons are in force, fairs and troops are frequently allowed to move from place to place and from infected provinces to healthy places, which gives rise to protests and complaints and causes public order to ferment, especially in those places where the contagionist theory predominates, where it is thought that cholera is approaching with the arrival of every vessel and the landing of passengers.* The internal sanitary service, lacking proper laws and regulations, is regulated by ministerial circulars containing instructions to prefects, who afterward forward them to the mayors. Upon serious occasions sanitary councils take things seriously; they appoint commissions and draw up circumstantial reports, which are printed in order to become solemn testimony of the uselessness of such institutions regarding the protection of public health.† Municipalities protect public health by means of sanitary commissions, which do nothing but consult and assemble, whenever the Mayor thinks fit, and the questions discussed are those chosen by that official. As a general rule, if the interests of some single individual are not involved, the discussions are simply academical and of no practical use. The municipal sanitary service is conducted by the official doctors, who in small communities are subservient to the Mayor or to the party which is in power, and can be dispensed with much quicker than any other employee. They are employed outside of the common law, they have no privilege nor any right to a pension, they live miserably upon most meager salaries, and are also obliged to gratuitously attend to the aged. For some time complaints have been made of the unfortunate condition of these benefactors to public health, but the Government has not yet deemed proper to remedy this enormity. And at the same time the official doctor could and should be the real sanitary officer of the kingdom. He could be the pivot of a hygienic law, as he is a reliever of human suffering. Many small towns are provided with hospitals founded by the charity of the inhabitants; but the mass of those hospitals are in the worst hygienic condition, are badly administered, do not generally answer to the needs of the people, and are nearly all without separate wards for infectious diseases. The action of the proper authorities of such towns is often null, because the prefects, who should guide them, occupy themselves with political questions, and do not pay the slightest attention to the administration of charitable institutions. Some of the principal towns have lately established regular institutions for the assistance of the poor, and have, besides, erected offices and laboratories for the study of hygiene; but this is exceptional, as in general that which regards public health is in complete chaos, and many towns are without hygienic regulations,* small communities even ignoring the existence and meaning of the word hygiene, so that contagious diseases are never attended to separately, nor are any preventive measures taken against typhus fever, diphtheria, scarlatina, or even small-pox, even if they assume epidemic proportions. The inhabitants are alarmed only on account of the cholera when it arrives suddenly and flares up with vehemence; sanitary services are then organized or improvised, and, as isolating infirmaries do not exist, those attacked by cholera are often admitted into the hospitals which are intended for ordinary diseases, at the great risk of the sick and of the whole city, in which the only place assigned to the ordinary sick is in a moment transformed into an epidemic center. It is of no use to talk about the harm to public health and to the moral and economic management of a community caused by such a system. It often subjects the authorities to great expense, for, being pressed by need and frightened by the impending danger, they try to do in a day that which they never thought of doing at the proper time with a good sanitary organization, by forming services in confusion which require prepared regulations and an educated staff, and squander public funds, thus giving proofs of their incapacity. Then those doctors are called whose learning was not appreciated at the proper time, and whose advice was once despised and had fallen into discredit with the vulgar, and their advice is accepted. Or else they expect a repetition of the multiplication of loaves and fishes, thinking that with a badly organized (which is a badly paid) and an inferior staff, insufficient for the ordinary needs, one can obtain extraordinary, serious, and delicate services which require energy, knowledge, and promptitude. And with all this it is believed that, when needed, the assistance of municipal employees may be of use, when those persons are vitiated by the influence of bureaucracy or demoralized by electoral, political, or administrative conflicts, of which, lately, Italian municipalities have become the agencies, either at the service of a party, or at the orders of a prefect, or for the degrading and nauseating personal solicitation of votes and promises. The present epidemic has demonstrated the serious consequences which this system of remedying an evil when it presents itself causes.

Many places, among which are two large towns, Naples and Palermo, allowed themselves to be seized by the evil quite unprepared. On the pretext of not alarming the public, several mayors refused to form any preventive organization; and some were dismissed because they refused to follow the instruction of prefects. In some places mayors deserted their posts, and left the communal administration in the greatest confusion; carbineers and soldiers were obliged to act as doctors, nurses, and even undertakers.

It is true that in certain places the people refused to receive the assistance of their municipality or doctors, owing to their fear of contagion and their belief that the epidemic was due to poisoning. But this popular belief is ancient, and finds its origin in that popular credulity against which, as Schiller wrote, not even the gods have power, and, instead of pointing out this barbarity and ignorance, and making it a public fault, honest persons who take an interest in this misfortune of the people would do better to study this very serious matter, which greatly contributes to increase public misfortune during serious epidemics. Through the ignorance of the lower classes, cholera is easily taken for the effect of poisoning, on account of the rapidity with which it increases and spreads, and the celerity with which it kills, and for such a belief in poisoning one can find a plausible pretext in the very febrile activity into which the proverbial municipal indolence converts itself. It is a fact that many municipalities which had never paid much attention to their administration suddenly rushed into all sorts of regulations, and immediately ordered abundant disinfections as soon as they saw a great evil approaching, and, in order to protect public health, often exceeded the limits in such a manner that the people, who are generally neglected and frequently ill-treated, suddenly perceiving that they were the subject of most assiduous care, and observing that their misfortune increased with the multiplication of public services, and, in the terror of the general calamity, not being able to discriminate between good and evil, suspected something must be wrong, refused assistance, shut themselves up, barricaded the doors of their houses, and, when one offered them any aid, replied, "Let me die in peace."

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* When this article was being printed the telegraph informed us of serious disturbances which had occurred in Palermo on account of the arrival of several vessels conveying disbanded soldiers to their homes, upon one of which steamers a case of cholera manifested itself while in quarantine. And in the Milan papers a protest appeared from the Mayor, addressed to the Minister, in which he remonstrated at the approaching arrival of a regiment of cavalry from an infected region.

† See reports on cholera by Professors Pantaleo, Randacio, and Argento, approved by the Sanitary Council of Palermo in the extraordinary assembly of the 6th of January, 1886. Palermo, 1886. These reports were drawn up and approved by the Sanitary Council above mentioned, at the request of the prefect of the province, and at the desire expressed by the provincial deputation. It is an important work, which has the fault of not interpreting the will of the Government and of suggesting means and measures which are not in accordance with Government views; hence, like so many other works of a similar kind, it only shows the uselessness of the institution of provincial sanitary councils.

* Article 152 of the Regulations for the Execution of the Law of March 20, 1885, on public health, prescribes that every district should have its hygienic regulations, and it enjoins those which have none to form them without delay, so that they may be published before the 1st of January, 1886. Nevertheless, many districts are still without any such regulations, and the city of Palermo, up to the 1st of January, 1886, had none whatever, and I do not believe it has them even at the present moment.

Then, again, in the Sicilian provinces, where the saddest reminiscences of the persecutions and massacres committed by Delcaretto[*] are associated with the cholera, suspicion was partly based upon the hatred which existed between the governed and the governors. And, if the people in their misery and ignorance do not see the great difference which exists between the present government and that of the Bourbons, whose fault is it? What has the Government done during twenty-six years to merit popular gratitude, especially in the southern provinces? Perhaps indirectly many things have been done, but directly for the people nothing. They dwelt before in miserable wildernesses, and still live miserably in the same hovels, which with time have become more horrible than before. They formerly lived abandoned, but now, who takes any trouble about them, who succors them in their pain and misfortune? In Palermo, a town of 250,000 souls, there is a miserable hospital of 300 beds, of which one third are reserved for the sick of the province, which contains more than 600,000 inhabitants. Many of the infirm among the poor have died in the streets of this city without assistance. Well, in this case, complaint is made against the administration of the hospital, which is almost a financial failure, and which plods along as well as it can, while no one pays any attention to it, and charitable societies and the municipality sleep quietly and profoundly.[†]

Popular beliefs are not easily overthrown, and, in order to oppose them, shouting and swearing are not sufficient, but a series of benevolent actions[‡] to relieve misery is necessary; and with a view to stamping out the belief in poisoning during epidemics, and especially during the cholera, a public sanitary system should be organized, to work also in ordinary times against all those other contagious diseases which cut off thousands of lives daily without the slightest preventive measure being taken. When the municipality and the Government take care of public health properly, and with serious regulations, the people, realizing that their health is really protected and their condition ameliorated, will cease suspecting and will see the good where they now fear the evil. Therefore in Italy, and especially in the south, that popular belief will gradually disappear. Until the Government thinks of reorganizing sanitary systems, the authorities will only waste their energies and public funds, and the Government may cease issuing instructions which the people either do not want or will refuse. By continuing with the sanitary circulars issued by the Minister of the Interior, with hygienic councils, requested by the various sanitary councils of the kingdom, without listening to them, and with the carelessness of Italian municipalities, which somewhat resembles Arabian fanaticism, Italy will always be devastated by epidemics, cholera will remain for many years to come, and typhus fever, scarlatina, diphtheria, and small-pox will assume a permanent epidemic character. We are laboring under the greatest misapprehension, and are liable to incur the greatest danger, if we believe that committees of assistance and voluntary bands of nurses will be sufficient in time of need. Certainly the acts of charity performed by so many persons are to be admired, and are worthy of public praise. The charity of the King and people have really been touching, and have tended in some measure to alleviate a public misfortune; they are therefore to be lauded, but certainly the works of piety and charity are not enough to regulate public services, nor can they be of any use in protecting public health.

To this sacred end the Government must provide wise laws, and municipalities with efficient organizations, and as an example the efforts made by certain places are cited, as well as the regulations issued by the municipality of Milan, which have been in operation during several years of epidemic diseases. In a country where liberty was pined for, and which made so many sacrifices to bring about a union, it is a duty of the highest importance to protect public health. The ancient Romans, who were skilled in the handling of arms, and more advanced in civilization than any other nation in those times, vigorously protected public health, and placed it at the head of everything—*Salus publica suprema lex esto*—and, with healthy subjects who were neither dejected nor degraded by great epidemics, they conquered the world and civilized it. At the present time hygienic laws and sanitary provisions against epidemics in Italy are a duty of civilization, a duty of humanity, and a political and moral necessity.

It appears to me that I have clearly demonstrated that which was not absolutely necessary, viz., the very bad state of sanitary organization, and the necessity of remedying it at once. Sanitary offices should be established for the protection of public health, just as offices are for the protection of persons and property, and those fictitious organizations of sanitary councils and municipal health commissions should be abolished because, on account of the defective manner in which they are organized, and the persons which the law requires they should be composed of, they can not in any way assume the hygienic and sanitary service of the kingdom. Consequently, prefects and mayors should, for the protection of public health and the working of the various services, have certain sanitary offices attached to their own, with the necessary means for the conduct thereof. The Government should at once assemble a commission composed of the most eminent hygienists and practical physicians, with a view to projecting a reorganization of sanitary systems. In my opinion, for such an important service, Italy should be divided into various urban and rural districts as England is. In every district, which would be under the local authorities, there should be a hygienic and sanitary commission, with various inspecting physicians and an adequate number of sanitary guards, who should be educated and capable of discharging the duties required of them. Every district commission should be supplied with a laboratory for hygiene and one or more compressed-steam stoves for the disinfection of linen and bedding. Large cities could be divided into several sanitary districts, according to the number of inhabitants. The visiting physicians, after having bettered their condition, should be appointed sanitary officials, under the district sanitary authorities, for everything pertaining to the public health. Civil and military hospitals in times of epidemics should be placed under the care or superintendence of the respective district commissions for the execution of any hygienic or preventive measure. District commissions should be obliged to superintend every sanitary service, to execute or cause to be executed hygienic repairs in houses, especially among the poor, in public buildings, etc., whenever infectious diseases break out (small-pox, diphtheria, typhus fever, typhoid fever, scarlatina, cholera, etc.), to provide for the necessary disinfection of places and effects belonging to the sick, and to cause every patient to be isolated.

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[*] During the cholera in 1837, the Bourbons sent Delcaretto to Sicily, and this famous tyrant overran the island with a flying squadron, and took advantage of a slight disturbance in Syracuse to establish a government of military terror in Sicily, which lasted without interruption until 1848. Courts-martial judged without loss of time, and sentenced the victims to be shot one after the other, and such was the rage and hurry to kill that in Bagheria, a small town near Palermo, a child of ten years was found among thirteen persons who were to be shot. The cholera was most destructive that year. In the province of Palermo alone forty thousand deaths occurred. Borghi, Di Blasi, and other Sicilian historians narrate most horrible accounts of the Bourbon who did all he could to increase the number of deaths. He seized this opportunity to persecute and torture some of our greatest patriots, and to snatch from Sicily every trace of freedom. This is why the people believe in the poison, which they fancy the Bourbons scattered in order to render the island miserable, and to deprive it of every former privilege.

[†] Lately the municipality organized the service of visiting doctors, but in spite of their efforts it is very certain that they can not cure certain diseases in the miserable dwellings of the poor, where light, air, and frequently even bedding, do not exist, and in which animals also live.

[‡] During the last twenty-five years I have always tried to ameliorate the hospitals and ambulances as much as possible, as well as the miserable condition of the sick and wounded, and, so far as my strength has allowed me, I have always taken great interest in the poor. In 1866, with the assistance of some friends and charitable ladies, I caused a ward in the Civil Hospital to be set apart for sick children; and in 1874, with the help of the same friends and ladies, I worked to found in Palermo a hospital for children, called the *Ospizio Marino*. Whenever I could, I have always endeavored to convince the municipality and province of Palermo of the necessity of helping the poor. If, in the last epidemic which raged in Palermo, I was listened to by the poor with reverence and affection, it was partly due to my colleagues in medicine, who always understood and assisted me in my honest endeavors, and partly to the gratitude of the people for the little which I had done for the benefit of the poor.

Recapitulating what I have already stated on the necessity of a law on public hygiene, and on the urgency of public regulations, I will finally treat practically of the question of prevention in times of cholera. Certainly the precautionary measures will vary according to the desire of complying with the localist or the contagionist theory. Apart from the fact that both theories have much in common, as I have already said, we should consider the question of preventives as purely practical, and we should, therefore, make use of the results which have lately been obtained by study and pathological experiments. We have already shown that cholera is carried with people and merchandise, and that for the development of the same both places and persons must be predisposed. If one of these conditions is wanting, the epidemic remains stationary. Preventive measures should therefore be adopted, together with sanitary steps, and should be in accordance with commerce and local and individual predisposition. Preventive measures against the spread of cholera by means of cordons can not possibly be executed, because in that case every country and communication would have to be closed up.* It is almost useless to argue as to the efficiency of quarantines with regard to Italy, which is at present invaded by the cholera; for this a complete international agreement would be necessary. If we consider this question practically, it can only affect the islands, which are at present free from cholera. With regard to the islands, they can perhaps be protected by means of quarantines, but one must also consider that it is necessary that these quarantines should be arranged in such a manner that commerce be not altogether obstructed, and in that way there can be little safety. In fact, the islands have frequently asked for the imposition of quarantines as a precaution, but the cholera has entered notwithstanding and has caused more destruction than in continental towns.

If quarantines are to be maintained, it is necessary to establish them on new principles; their duration should be fixed at seven days, and hygienic measures should be employed, such as airing, ventilation, and disinfection by means of compressed-steam stoves, etc. Such measures must be considered as indispensable parts of quarantines, as the latter without the former are quite useless. Quarantine should begin after a medical visit, which should be repeated daily. Admission into free pratique should be given only after an accurate hygienic inspection, and after the disinfection of the linen, and the opening and airing of baggage and merchandise. It is necessary to provide two *lazzeretti* for the islands, furnished with suitable infirmaries for the isolation of the sick, compressed-steam stoves for disinfection, and space enough for the opening and airing of baggage and goods. Quarantine on board might be allowed only to arrivals from infected places, so long as there were not too many passengers on board, and vessels should be provided with steam stoves, and have a doctor appointed by the Government. When a case of sickness manifests itself upon a vessel, either during the voyage or in quarantine, the vessel must be thoroughly disinfected, and her bilges emptied and washed with a solution of corrosive sublimate or with sulphuric acid. During an epidemic the rag trade must be prohibited, and at the cessation of an epidemic the trade in question must not be renewed until the rags are disinfected in stoves. In or near infected places we must also prohibit fairs, the changing of quarters of a garrison, or any other transfer of troops, or military manœuvres, levies, transferring or discharging of classes, etc. In places which are menaced, hospitals and public institutions must be isolated, and special places must be got ready for those attacked by cholera, and places to isolate those persons who were living with the first to be attacked by the disease. In every train, a separate car must be set apart for the sick, and stations must be furnished with the means necessary to their transport. The cars in which cases of cholera manifest themselves should be disinfected and washed with a solution of corrosive sublimate in the proportion of 1 to 2,000.

This certainly will not be sufficient to prevent the cholera from entering a place, and therefore the greatest attention must be given to locality. Mayors and sanitary commissions must promptly have any cause of insalubrity removed; they must see that potable water is not polluted, and inspect public washing places and public works; they should see to the thorough cleanliness of the streets and houses, by causing any organic matter or refuse to be promptly carried away; and must advise people to keep their closets clean, and disinfect them daily with solutions of chloride of zinc in the proportion of 25 to 1,000, or with sulphate of copper, 20 to 1,000; they should also carefully isolate the first cases of cholera, and keep their sanitary staff always in readiness. It is also necessary that persons should take good care of themselves, especially if they are predisposed to illness. Predispositions in this respect may be injurious, as are impure air, scarce and unwholesome food, impure water, chilling of the body, and any excess which affects moral and bodily strength; consequently wholesome nourishment, pure water, and flannel clothing, or at least the covering of the stomach with a piece of flannel, avoiding diarrhœa, and seeking the doctor's advice when any indisposition is felt, are absolutely necessary. If there is doubt as to the quality of the water, it can be filtered by means of porcelain filters (such as Chamberlain's and Mialhe's), or boiled. Physicians can prevent many misfortunes when they are called in time; besides, it is as easy to cure the first symptoms of the disease as it is difficult to cure it when it has made progress. Do not trust in so-called specific remedies brought forward by charlatans, and refuse the use of new remedies in a disease which gives such little time for experiment. The essential advice for personal preservation is to keep the person and the house extremely clean. During the epidemic which raged in Palermo in 1885, the sanitary commission of this town strongly advised the people, by means of various publications and insertions in the papers, to strictly adhere to the precepts above mentioned, and, although the cholera was severe, having after the ninth day killed 192 in one single day, and in two months 2,710, among the higher classes, who were able to follow the advice of the sanitary commission, there occurred but few cases and not more than thirty deaths, whereas the disease caused great destruction among the poor, who were either unable or unwilling to follow any advice.

I trust that municipalities, provinces, and the Government will consider what I have briefly stated in the present communication, and will reflect upon the very serious results consequent upon the want of proper hygienic laws and well-regulated services. Regarding the conditions of time and place which, according to the localists, prepare the way for epidemics, facts should be cited. They will form the best examples and inducements to urge the reformation that I have mentioned. In Wales, von Pettenkofer says, fifty thousand deaths occurred from cholera in 1849, twenty thousand in 1854, and fourteen thousand in 1866. From that time the cholera disappeared from that region, and in 1867,

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* It is well to know the ideas in vogue with English physicians who are connected with the Indian Sanitary Commission, in order to see the difficulty of an international agreement for quarantines. Cunningham, who is the general physician of the Medical Department and Sanitary Commissioner of the Indian Government, and who is well known and greatly respected on account of his studies on cholera, is of opinion that commerce, which has been so much accused, is not such a sure means of communicating cholera as was at first supposed, and he proves, by means of a series of experiments and facts, that commerce has little or no influence on the propagation of cholera, and that quarantines must disappear, being useless and dangerous barriers. Those countries which are directly and frequently in communication with India are the ones which have suffered the least, and from the time that this communication became more rapid and direct, Western countries have suffered less than they did before. (Cunningham, "Cholera: What can the State do to Prevent it?" Calcutta, 1884.)

1870, 1873, and 1884 there did not even occur one case, whereas in Naples, according to Spatuzzi, in 1873 there occurred 1,000 deaths from cholera and in 1884 more than 8,000, and in Palermo, in 1866, there were 4,000 deaths, and again 4,000 in 1867, and 2,710 in 1885, which is the reverse of that which happened in Wales. Thus the result in Wales must be due to the hygienic reforms introduced in the houses of the poor, and to the potable water with which that extensive district has been supplied. I trust that Italy will be able, without compelling municipalities to incur heavy expenses, to do in a few years that which they have failed to do in many years, and I trust in the skill of Italians, inasmuch as they will be able to produce a public benefit from a sad experience.

The following table, containing the various numbers of deaths from cholera which have occurred during the last half-century in Naples and Palermo, shows: 1. That the mortality from cholera in Palermo, taken altogether, exceeds that of Naples by 3,138. 2. That the percentage on the Palermo total of deaths is more than double that of Naples. Consequently these figures will help to show that the special law for the improvement of the sanitary system of Naples, brought about by the sentiment of pity which does honor to the country, will be a gross injustice if it is not followed by a hygienic law for the whole of Italy; besides, various important towns and innumerable districts bear the same relation as Palermo to Naples.

Table showing and comparing the mortality from cholera during the various epidemics in Naples and Palermo.

YEAR.	Population.	Duration in days.	Total of deaths.	Percentage.
PALERMO:				
1837	176,752	126	27,004	15·62
1854	182,270	95	5,334	2·93
1855	182,411	84	1,420	0·78
1866	200,012	100	4,046	2·02
1867	197,543	135	3,821	1·93
1885	244,901	89	2,710	1·10
NAPLES:				
1836	437,563	91	5,963	1·15
1837	432,720	154	11,714	2·71
1854	442,505	71	9,600	2·17
1855	434,050	107	1,300	0·30
1865	444,880	70	2,200	0·49
1866	442,804	85	3,470	0·79
1867	441,007	68	300	0·07
1873	457,530	116	1,280	0·28
1884	495,788	91	5,370	1·08

There have been six epidemics in Palermo during forty-nine years, the total number of deaths being 44,335, and there have been nine epidemics in Naples during the same period, with a total loss of 42,979. The proportion of deaths to population at Palermo was 1·80 per cent., and at Naples 0·86 per cent.

The New York Academy of Medicine.—The Section in Surgery will meet Monday evening, the 10th inst. The election of officers is the special order.

The Section in Neurology will meet Friday evening, the 14th inst. Officers will be elected; Dr. R. W. Amidon will read a paper entitled "Malignant Disease of the Spine, with Cases; a Contribution to Cruveilhier's 'Paraplégie douloureuse'"; Dr. L. E. Holt will present a cyst of the pia mater; and Dr. M. P. Jacobi will read a "Note on Post-epileptic Conditions."

The Section in Ophthalmology and Otology will meet Monday evening, the 17th inst. Officers are to be elected, and Dr. J. E. Weeks will read a paper entitled "The Pathogenic Microbe of Acute Contagious Conjunctivitis, with Specimen."

The Section in Theory and Practice of Medicine will meet Tuesday evening, the 18th inst. After the election of officers, Dr. M. P. Jacobi will read a paper entitled "Notes on the Use of Quinine in the Pneumonias of Children."

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin" for November, 1886, the whole number of deaths reported was 6,872, in every thousand of which there were 24·15 from diarrhœal diseases, 22·85 from typhoid fever, 98·22 from croup and diphtheria, and 142·90 from consumption.

Laryngology at the College of Physicians and Surgeons.—Dr. Lefferts's next lecture, for Tuesday, the 11th inst., will be devoted to tertiary syphilis of the throat.

The Surgeon-Generalship of the State of Connecticut.—It is announced that Dr. Charles James Fox, of Willimantic, a graduate of the Medical Department of the University of the City of New York, of the class of 1876, has been appointed surgeon-general on Governor Lounsbury's staff.

THERAPEUTICAL NOTES.

Iodine in the Treatment of Glandular Swellings.—In an address on "Practical Therapeutics," read at a recent meeting of the Medical Section of the Academy of Medicine in Ireland ("Dublin Jour. of Med. Sci.," Dec., 1886), Dr. James Little says: "In the United Kingdom thousands of pounds are annually expended in the purchase of iodine, which, after solution in spirit, is applied to enlarged glands in the neck and elsewhere in the body to promote their disappearance. The impetus to the employment of the iodine was given by Lugol fifty years ago, and given so strongly that it has reached our days apparently with undiminished force, and, quite recently, rather acrimonious discussions have taken place as to the merit of rendering the application colorless. Yet its value is a matter on which every practitioner should be able easily to form his own judgment, and any one who does so independently will, I think, soon arrive at the conclusion that if the solution employed, whether it be colored or colorless, is a weak one, such as the pharmacopœial tincture, no effect whatever is produced; whereas if it be a strong one, such as the pharmacopœial liniment, the result is that the enlarged glands get more enlarged, and if the application is continued an abscess forms in the surrounding cellular tissue."

The Prevention of Abortion.—Dr. S. H. Stout, of Cisco, Texas ("Daniel's Texas Med. Jour.," Dec., 1866), says: "In all cases of threatened abortion, a careful investigation should be at once made, to ascertain whether the case is one of inevitable or preventable miscarriage. In either case the patient should be at once required to assume the recumbent posture, and to persistently maintain it, until in the latter instance the dangerous symptoms have subsided, and in the former until the flow of blood has ceased and the uterine involution is so far complete as to forbid the provocation of metrorrhagia—a very common sequent of abortion. In cases of preventable abortion I have never found any article of the materia medica so efficient as opium, which I have generally administered in the form of a dry pill repeated *p. r. n.* When the stomach did not tolerate the medicine, an injection or suppository *per anum* has often proved efficient. A mustard plaster three inches wide and six or seven inches long, placed over the lumbar region of the spine, I never fail to prescribe, for reasons obvious to any intelligent student of the pathology of abortion. I do not remember a case in which I have failed to arrest a preventable threatened abortion by the practice above outlined."

Alkaline Injections in the Treatment of Gonorrhœa.—Castellan ("Bull. gén. de thérap.," Dec. 15, 1886) states that he generally finds the pus of acute gonorrhœa to have an acid reaction. To overcome the acidity, he uses, three or four times a day, a urethral injection of from eight to ten parts of sodium bicarbonate dissolved in a thousand parts of water. The reaction of the discharge is tested every two or three days; as soon as it becomes alkaline, it begins to diminish and finally disappears, although there may be exacerbations, and there is no longer any ardor urinæ.

A Disinfectant Mixture for Apartments.—A contributor to the "Union médicale" for Dec. 16, 1886, gives the following formula:

Camphor	20 parts;
Calcium hypochlorite	50 "
Alcohol	50 "
Water	50 "
Oil of eucalyptus	1 part;
Oil of cloves	1 "

Mix in a large vessel kept cold. A few drops, on a napkin, are enough to disinfect a room.

THE NEW YORK MEDICAL JOURNAL, JANUARY 15, 1887.

Original Communications.

THE TREATMENT OF INVETERATE TALIPES EQUINO-VARUS BY OSTEOTOMY.*

By CHARLES T. POORE, M. D.,
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THE management of cases of congenital equino-varus which have resisted all the usual methods of mechanical treatment—tenotomy, stretching, etc.—has received much attention from surgeons, and various operations have been proposed for its correction. The majority of infants with this deformity are and can be cured by mechanical treatment, but there is a certain number of persons who, either from the marked degree of the deformity, neglect, or inefficient treatment, are unable to walk on the plantar surface of their feet, and in whom locomotion is labored and painful. Even in children it is sometimes impossible to hold the foot in a proper position without the aid of an apparatus after years of careful treatment. With the brace applied they are able to walk on the plantar surface of their feet, but, as soon as it is removed, the anterior portion of the foot reverts to its abnormal position.

The cause of this failure to relieve the deformity is not clearly understood, or, if acknowledged, is not appreciated by many surgeons. The muscles, ligaments, and bones have each and all been assigned as the cause of the deformity, and operative treatment has been directed to that tissue which, in the judgment of the surgeon, is the one at fault.

In order to understand the cause of this inability to hold the anterior portion of the foot in a proper position, and, when an operation is called for, to judge of the best means of correcting the deformity, a consideration of the anatomy of congenital equino-varus is necessary.

Through the kindness of Dr. J. B. Bissell I have had the opportunity to examine the bones taken from a child eight months of age who exhibited this deformity.

When the foot is viewed with the anterior portion placed in its abnormal position, the deformity does not appear to be one of marked degree.

The patient had been under treatment for some months, and at the time of death the anterior segment of the foot had been brought into its normal position and held there as long as the splint was on, but, on its removal, had immediately reverted to its abnormal position. The tendo Achillis had been divided.

On examining the bones, changes are found in the shape of the os calcis, astragalus, and scaphoid bones. The trochlear surface of the astragalus is longer in its antero-posterior direction, and is more flattened posteriorly, than in the normal bone. The body is more angular, being broader in front. If an imaginary line is drawn at right angles to one bisecting transversely the articular surface of the body, it will be found that the neck is set upon the body at an angle of 55°.

The external aspect of the neck is greatly elongated. The direction of its external border from where it springs from the body is forward and inward, and presents a straight line; the inner border is much shorter.

On account of this obliquity of the neck, the head of the bone is directed forward and inward so that it is at right angles with the longitudinal axis of the body of the bone; the head is smaller and more conical than in an astragalus taken from a normal foot. The head of the bone from the left foot presents two facets, the planes of which meet at an obtuse angle; the inner articulates with the scaphoid; the outer looks forward and is unopposed. The head of the bone from the right foot does not show any division into facets. Its general shape in front of the body is conical and has not the globular appearance of the head of the normal astragalus.

The os calcis appears to be of normal shape and size in its posterior segment. The anterior portion is curved from before backward, the convexity being directed outward, and its anterior articulating surface looks forward and inward. It also extends farther forward than in the normal bone, and is therefore elongated. The scaphoid is carried upward and inward by the head of the astragalus, and has a facet on its upper and posterior (lateral) border which articulates with the anterior portion of the malleolus. The rest of the bone seems normal. The other tarsal bones present nothing to contribute to the deformity.

The ligaments upon the inner side of the foot are greatly shortened—namely, the anterior portion of the internal lateral ligament of the ankle joint, the astragalo-scaphoid, the calcaneo-scaphoid, and also the inner portion of the plantar fascia. These hold the navicular bone and the head of the astragalus in their abnormal position.

The question naturally arises, how much these bones here described differ from those of the normal infantile skeleton. Mr. Adams states that the neck of the normal infantile astragalus at term looks directly forward.

In a bone taken from a child eight months of age with normal feet it is found that the neck is set upon the body of the bone at an angle of 28°, as shown in the specimen and photographs exhibited. The external portion of the neck is not elongated, and the head and neck are not conical; it also presents a much larger articulating surface.

The os calcis is curved on its lower posterior border, the concavity looking downward, and the line of its external aspect from the tubercle forward is straight, or, if anything, is a little concave; certainly not curved with the convexity directed outward. The anterior articulating surface is directed forward.

In comparing these bones, the following are their points of difference:

The angle at which the neck of the astragalus is set upon its body in the bone from the deformed foot is 55°, while that of the normal bone is 28°. The external surface of the neck of the abnormal is much longer than that of the normal bone; the articulating surface of the head is much smaller in the former than in the latter.

The anterior articulating surface of the os calcis is directed forward and inward in the bone from the deformed foot, while in the normal it is directly forward. Its anterior portion is curved outward in the deformed foot, but is straight in the one from the normal foot.

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* Read before the New York Surgical Society, December 8, 1886.

Mr. Adams, in his work on club-foot, describes the same changes in the astragalus and os calcis as those mentioned above, except that he does not notice the change in the direction of its anterior articulating surface, nor its elongation.

He considers any deviation of the axis of the neck of the astragalus from a straight line with that of the body as pathological.

Mr. Parker and Mr. Shattock, in a paper published in the "Transactions of the London Pathological Society" for 1884, give the result of their dissection of feet affected with talipes equino-varus, and compare the astragalus and os calcis with normal infantile bones.

They state that they find that "the normal astragalus of infants differs considerably from that of the adult in the direction and extent of the articulating facet of the head, and in the obliquity of the neck." As a basis of comparison they made measurements of the obliquity of the neck in twenty specimens of adult astragali taken promiscuously. The mean angle at which the neck was set in the body of the bone was 10·65°, the maximum was 26°, while the minimum was so small that to measure it was impracticable. In the fœtus, from about the fourth month to term, in eleven cases the mean angle was 38°, maximum 42°, minimum 35°. In five cases of varus the mean angle was 49·6°, the maximum 64°, minimum 31°.

From these facts it would seem proved that the obliquity of the neck of the astragalus is a normal condition in infants at term; that in varus, as a rule, the amount of the obliquity is increased, and that in the adult bone the neck is set upon the body of the bone at a mean angle of 10·65°; that in varus the anterior portion of the os calcis is curved with its convexity looking outward, and that its anterior articulating surface is directed forward and inward. It is evident, then, that during growth the axis of the neck of the astragalus in the normal foot changes from an angle of 38° to one of 10·65° with that of the longitudinal axis of the body.

It is a well-known fact that at birth the feet of infants are in a position of slight varus. The age at which the neck of the astragalus assumes the adult position has not been determined, nor am I aware of any fact bearing on the point. Many recent writers on this subject attribute this deformity to the position of the feet *in utero*, and consider that the change in the shape of the neck is due to long-continued inversion of the feet, and that the head and neck are held in this abnormal position by shortened ligaments. The alteration in the os calcis may be attributed to traction from the displaced bones on the inner aspect of the foot. The pathological changes found in the majority of cases of congenital talipes equino-varus may be described as an exaggerated obliquity of the neck of the astragalus and curvature of the anterior portion of the os calcis, together with its elongation, and that the head of the astragalus is held in its abnormal position by short ligaments; that the scaphoid is carried upward and inward by the head of the astragalus and held there by the abnormal condition of the ligaments; that the muscles have nothing to do with its causation, nor do they act as much of an obstacle to the restitution of the foot. Exception should, however, be made to muscles entering into the formation of the tendo Achillis.

It should be stated that in one dissection, reported by Mr. Parker and Mr. Shattock, of congenital equino-varus the obliquity of the neck was only 31°, being less than in the normal bone.

If the foregoing facts have been correctly interpreted, the indications for the treatment of congenital equino-varus seem simple. The object of mechanical treatment must be to stretch the ligaments upon the inner side of the foot, which hold the scaphoid and head of the astragalus in their abnormal position, so that the obliquity of the astragalus may undergo the diminution incident to normal growth, or, in other words, assume the form of the adult astragalus. There is still another element, in some cases at least, which prevents a perfect restitution, and that is the elongation of the os calcis. Even should the deformity of the astragalus be entirely overcome, the outer border of the foot would be longer than its inner, and thus continually tend to force its unsupported anterior segment inward.

In cases which have resisted all known methods of mechanical treatment the question arises, What operation is the best to restore the foot to a useful position? All operative procedures may be considered under two heads: section of ligaments and operations upon the bones. In 1881 Dr. A. M. Phelps divided all resisting bands and ligaments by cutting down through a large wound on the inner side of the foot until he was able to bring the parts into their normal position, and then allowing the wound to cicatrize while the foot was held in a straight position; fourteen weeks after the operation a club-foot shoe was applied. In another case the same operation was performed, leaving an open wound one inch and a half wide and extending down to the bone; there is no later report of these cases so far as I am aware.

Mr. R. W. Parker published a paper in the "Brit. Med. Jour.," July 3, 1886, in which he advocates subcutaneous division of the ligaments on the inner side of the foot and then correcting the deformity. He states, however, that there are some cases in which this method will fail, and tarsectomy must be performed.

Mr. Little advocated the removal of the cuboid, and Solly excised that bone in 1854, but it did not prove a success; it has been performed in this country by Stephen Smith, but it, too, was a failure, and Syme's amputation was subsequently performed. The operation seems to have been abandoned until 1874, when Richard Davy reintroduced and performed it in six cases; he reports them successful. In 1871 Mr. Laud removed the astragalus by gouging, but it does not appear that his patient ever walked without support. Other operators have removed the bone, but with varying success, the ankle joints being left stiff, and in many cases an apparatus had to be worn.

Otto Weber in 1886 removed a wedge-shaped piece of bone, including a portion of the cuboid and os calcis; and

Davies Colley performed a wedge-shaped excision of the tarsus in 1875. Since then Mr. Richard Davy has been a most ardent advocate of the operation. There is no question that a cuneiform osteotomy for persistent club-foot is an excellent operation, the only question being as to where the wedge should be taken from; all operators have made the cuboid at least form the base of the wedge. Mr. Davy says that it almost invariably includes portions of the os calcis, astragalus, and scaphoid bones. In one case he removed a portion of the os calcis, the head of the astragalus, and the whole of the scaphoid. Some surgeons have gone farther forward, like Barwell, who removed portions of the anterior row of tarsal bones. By these operations the foot is much shortened and many of the tarsal joints are destroyed; the patient walks, it is true, on the plantar surface of what remains of his foot, but with ankylosis of all the joints but the ankle and those in front of the first row of tarsal bones.

From a study of the bones from feet affected with talipes equino-varus, it is evident that the real trouble lies not in *front* of, but *behind* the medio-tarsal joint; and that all operations on the bones in front of this point are anatomically and mechanically wrong.

The only operation that of late years has commended itself to surgeons is a cuneiform osteotomy or resection of the tarsal bones in front of Chopart's joint; all others have failed to accomplish the end for which they were performed, and have been abandoned.

Tenotomy of the ligaments commends itself as one from which good results may be expected in infants, because it attacks the structure which is the chief obstacle to the normal development of the astragalus, but it has no influence on the curvature of the os calcis, and this it would seem is the cause of imperfect restitution in otherwise promising cases.

In looking at a dissection of a foot affected with the deformity under consideration, the following points suggested themselves:

1. That the inability to correct the deformity was due to changes taking place in the astragalus and os calcis.

2. That, in order to bring the anterior portion of the foot into its normal position, the curvature in the os calcis must be removed and the neck of the astragalus shortened, so as to allow its head to point in the normal direction and thus carry with it the scaphoid and other tarsal bones.

To accomplish this, the following operation was performed: An incision was made from a point one inch and a half in front of the tendo Achillis on the outer aspect of the foot forward to the middle of the cuboid bone, and down to the tendons of the peroneus longus and brevis; these should be raised or pushed out of the way. Another incision, beginning from the middle of the first and corresponding to the neck of the astragalus, was made directly upward; the tissues were then raised from the bones and the periosteum incised over that part of the os calcis from which it was desired to remove the wedge. With a chisel a V-shaped piece of bone was taken away, base outward, and its apex extending to its inner border; a wedge was then removed from the neck of the astragalus of such a shape as to allow the anterior portion of the foot to be brought outward and upward. The periosteum was united with catgut and the skin with several wire sutures, because the latter held longer and gave better support. An aperture was left posteriorly for the insertion of a drainage-tube; a plaster-of-Paris bandage was applied, extending from the toes to above the knee, and the foot was placed in a corrected position; the wound was dressed with iodoform and gauze.

The size of the V-shaped interval left after the removal of the wedge of bone should be sufficient to allow the anterior portion of the foot to be placed in a proper position without any tension on the tissues on its inner aspect. I think that a subcutaneous division of the ligaments on the inner border of the foot, when they are tense, would facilitate the correction.

The dressings should be as light as possible, not bulky; otherwise it will be found difficult to apply the plaster-of-Paris bandage firmly; a little over-correction does no harm.

The advantages maintained for this operation over that of removing a wedge from in front of the medio-tarsal joint are:

1. It is anatomically and mechanically correct.

2. A smaller amount of bone has to be removed, because the operation is performed nearer the apex of a triangle.

3. No joint is opened, and, consequently, the foot is left in a more normal condition.

4. It does not practically shorten the foot in front of the ankle joint.

The class of cases suitable for this operation are:

1. Those of patients who have reached the age of five or six years with the deformity unrelieved, who have walked on their feet, and in whom the parts are rigid and the deformity marked.

2. Those cases in which, although the anterior portion of the foot can be brought into position, yet require an apparatus to retain the foot in its normal position after years of careful treatment.

3. Those cases in which the obstacle to restitution is due to elongation of the os calcis; perhaps in these patients the removal of a small wedge from that bone would accomplish the result.

Case I.—W. S., ten years of age, was admitted into St. Luke's Hospital, in September, 1885, with congenital talipes equino-varus of the right foot. The deformity had never been treated; walks on the outer side of the foot. The parts were rigid, and with the hand no change could be made in the position of the anterior portion of the foot; there was no motion at the ankle joint.

In October the tendo Achillis was divided, and Bradford's instrument for forcibly rectifying club-foot used; but no impression could be made on the position of the foot. In November another attempt was made with the same instrument, but with no better success. On January 14, 1886, I performed the operation advocated in this paper, and brought the anterior segment of the foot into a straight line. There was considerable oozing of blood for a day, so that the dressings had to be changed, and, in a week, there was some slight suppuration. During the treatment he had an attack of scarlet fever. The wound all closed within a month, but he was not allowed to use his foot for eight weeks. At the date of his discharge from the hospital he was able to walk well, with his foot flat on the floor. There was but little motion at the ankle joint. The line of the inner and outer borders of the foot was perfect, with not the slightest tendency to inversion.

Case II.—A. S., eight years of age, was admitted into the hospital in November, 1885, with double congenital talipes equino-varus. His tendons had been cut, and he had been under mechanical treatment for years, but with no benefit. The os calcis was in its normal position, but the anterior portion of the foot was turned at a right angle to the os calcis. Three attempts had been made to correct the deformity with Bradford's instrument, but without making any impression on the position of the foot.

December 25, 1885.—A wedge was removed from the os calcis and neck of the astragalus in the same manner as mentioned above; the wound was all closed in a few weeks, the temperature not reaching beyond 100°.

February 6, 1886.—The same operation was performed upon the right foot: at the date of his discharge the patient was able to walk with the sole of the foot flat on the floor. He had always had some paresis of the extremities, so that he had never had good use of his limbs. He walked, at the time of his discharge, quite well; but there was a tendency of the whole foot to point inward. I do not think the correction was as perfect as in the first case.

Case III.—M. J. C., aged fourteen, has been under treatment at the hospital at times for several years. She has had a congenital talipes equino-varus of left foot, which has been corrected so that the anterior portion of the foot can be brought into its normal position with the hand, but immediately on removal of the support it turns somewhat inward. She has worn a brace for several years; with it she gets along pretty well, but without it the foot is almost useless.

February 28, 1886.—A V-shaped piece of bone was removed from the os calcis and the neck of the astragalus, and the anterior portion of the foot placed in a straight position. A plaster-of-Paris splint and dressings of gauze and iodoform, as in the other cases, were used. Owing to illness, I did not see the patient again for a week; she then had a high fever, the foot was swollen, and the wound looked blue and sloughy; the splint was removed and the wound dressed, the fever continued, and she died on the twelfth day, of septicæmia.

SURGICAL INFECTION:

A REPLY.

By A. H. P. LEUF, M. D., Philadelphia,
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The "New York Medical Journal" of November 20, 1886, contains a short paper by my esteemed, able, and well-known friend, Dr. George R. Fowler, under the caption "Surgical Infection: Is it a Chimera?" In it he does me the honor of discussing my paper, "On the Pathology of Surgical Infection and the Value of Antisepsis," read before the Brooklyn Pathological Society on February 25, 1886, and published in three parts in the "Medical and Surgical Reporter," of Philadelphia, of August 7, 14, and 21, 1886.

Had the doctor differed with me only in matters of opinion, it might have been out of place for me to reply; but he has, unfortunately, mistaken my statement of facts. Interpretations of facts admit of honest differences of opinion.

He credits me with having "made essentially the following declarations":

> "1. There are but two methods of wound repair, the first being by primary adhesion and the second by suppuration.
>
> "2. Failure to obtain primary adhesion, and other wound complications or sequelæ, depend, not upon the absence of antiseptics, but upon some constitutional state or predisposition.
>
> "3. Those who practice antiseptic surgery neglect other and more important measures necessary for the safety and welfare of the patient."

Let us consider these declarations that are laid at my door and see if they are mine. As regards the *first*, I quote from my paper as follows:

> "Wounds heal essentially but in two ways. These may be and by some are denominated primary and secondary. The first occurs without the formation of pus, and the second is accompanied by suppuration. In the latter we have granulations and granulation tissue, while in the former healing takes place without granulations, although the process of repair results in an identical tissue. Repair in all instances is effected only by the cell. The participation of the blood-vessels in this process is secondary, and their secondary function is to nourish the cells that are doing the work, thus continuing proliferation and growth.
>
> "By suppuration I mean any fluid exudation from a wound's surface containing multinuclear cells—leucocytes. The so-called 'union by granulation without suppuration' of the antisepticists is only apparently true. The object of suppuration is the protection of the granulating surface from extrinsic influences, particularly over-dryness and hardening of the surface. In proportion as there is diminished chance of evaporation there may be lessened pus formation, and more especially is this true when the surface is well protected by sponge or other suitable material, and dressings that are more or less sealed. This is true in very much the same way that it is that the amount of callus in a fracture depends largely upon the irritation of the broken ends of the bone and their displacement. I am well aware that this view of suppuration may seem new, but, be that as it may, it is the sense in which the term is employed throughout the paper. Any exudate from a granulating surface will be found to contain leucocytes, and therefore is pus. It may only be detectable by its effects in preventing dryness and hardening of the surface. There is no such thing in reality as 'healing by granulation without suppuration.'"

Union is a broad term, and signifies a coming together and remaining so for at least a time. Adhesion is a special kind of union, by which is meant a sticking together, a gluing, a pasting. The closure of a wound by permanent approximation of its surfaces is not done by any adhesive process, for the agency is a complex one. In my paper I was particular to object to the term adhesion, because cut edges did not adhere or stick together like plaster to a finger, but they *grew* together. My remarks in the same paper on this subject follow:

> "For the sake of clearness it is perhaps well to state that it is not intended in this paper to use the term 'primary union' as synonymous with 'primary adhesion.' The idea expressed by the latter term is a fallacy, as it supposes that two normal surfaces can adhere and remain united without the inflammatory process that inevitably accompanies trauma. By 'primary union' I mean a union which results without suppuration or surface granulation, and which it is not safe to disturb inside of

> several days, and which, even after that time, may be resevered without very much effect. This is the most advantageous union that can be attained, and its rapid perfection in suitable persons has led to the misconception—'primary adhesion.'"

In this statement I was even so careful as to say that primary union was effected without "*surface* granulation," in anticipation of some one possibly making the point that any and every union or new formation was accompanied by granulation. It surely can not be improper, therefore, to say that union is the right term, and not adhesion.

Hence the first declaration does not truly or fully represent my views as stated in my paper.

The *second* declaration implies that I maintain that primary "adhesion and other normal complications or sequelæ depend" always "upon some constitutional state or predisposition."

This is what I did say:

> "The local causes may be said to consist of, first, anything that will prevent perfect coaptation; second, anything that will reduce the local tonicity; and third, all sufficiently irritant foreign bodies. The first includes everything that separates the edges of the cut surfaces, and these may be large, solid foreign bodies, blood, lymph, serum, water, air, gas, and drains of all kinds, as tube, horse-hair, or silk. The second comprises devitalizing or benumbing fluids and gases, and even a too free and continuous supply of water. The third consists of all kinds of irritating substances.
>
> "The constitutional causes are readily divided into nervous, muscular, vascular, and nutritive. General neurasthenia, in the broadest sense of the word, whether it be due to heredity, some chronic or acute disorder, or to anæsthesia, will materially retard or altogether prevent repair, if not properly and promptly counteracted. Lack of promptness may, and occasionally does, involve a loss of life, in consequence of the drain upon the vitality of the patient in ineffectual efforts at union. A flabby muscular apparatus will often, in spite of a fair nervous tonicity, be a barrier to typical repair, causing delay and sometimes failure. Vascular disturbances, by directly modifying local nutrition, interfere with the healthy healing of a wound as insufficient food supply diminishes the effectiveness of individuals who have to perform a given work within a specific period. General nutritive disturbances, as impairment of the functions of the stomach, liver, or kidneys, retard or prevent primary union, and sometimes even normal granulation, by diminishing the general vitality or resisting power."

Furthermore, I admitted the value of antiseptics, as will be seen farther on, but denied that their only means of doing good was as germ-killers, although I also admitted then that they did good even in this way at times.*

From this it is readily seen that the doctor's impression of my views was hastily formed and not subsequently corrected; and it also follows that this second declaration is far from correct, because it practically credits me with declaring "some constitutional state or predisposition" to be the only factor that prevents primary union.

The *third* declaration.—This, to be true, should read: *Most of* "those who practice antiseptic surgery," *as a rule*, "neglect other and more important measures for the safety and welfare of the patient."

Here is what I did say:

> "The patient himself does not receive the proportion of attention he deserves. A patient at hand sufficiently diseased or injured to excuse surgical interference is operated upon as soon as is convenient for the surgeon, and when all antiseptic preparations are completed. It is the rule to ignore the preparation of the sufferer for the coming strain upon his vitality."

It is hard to be accused of introducing no new facts, as if such had been alleged. While, however, I did not introduce any new facts, it was my purpose to hold up for general inspection a new arrangement, a picture, of old and partly forgotten but none the less valuable facts, in contrast with a dangerous extremism of the day. It was an effort at a rearrangement and revivification of the facts brought to light and the principles taught by the older masters of the surgical art. Some of these men never permitted the enthusiasm following the epoch-making discoveries of Tyndall, Pasteur, Koch, and others to warp their minds away from the principles which they themselves had helped establish.

Dr. Fowler accuses me of ignoring "entirely the healing by granulation without suppuration under an antiseptic dressing"; and instances the "organization" of a clot in a bone cavity, and sponge grafting. As justly might he instance primary union, for all repair is by granulation. The primary union of a simple incised wound is really by granulation. I have already quoted from my paper, and refer to it to show that I did not ignore the subject.*

In taking exception to Dr. Hamilton's views on this subject, Dr. Fowler remarks: "And this without attempting to deny that germs exist in the atmospheric air." This statement shows exactly where the antiscepticists and microbists are at fault. They seem to think that every one must accept their own enthusiastic conclusions from the same facts, and that if the conclusions of others are not in accord with their own, the facts must have been denied as a matter of course. Now, Dr. Hamilton denied no facts, for the simple reason that they are facts and can not be denied; but his interpretations of them did not agree with those of his more sanguine and enthusiastic opponents, because he believed they were not warranted in deducing such conclusions.

My able critic again says:

> "Volkmann, of Halle, declared to me that, so great was his faith in the antiseptic system, he believed wounds should heal without suppuration or other accident, no matter what the patient's general condition might happen to be."

To this I would say that if Volkmann, of Halle, has such faith, it is no doubt well founded; and if he believes that the good results are all due to the process of germ killing, that he is greatly in error; but if he holds that opinion from seeing its good effects, and thinks them due to a number of causes operating with the use of antiseptics, besides their germicidal properties, then he is alive to the facts and not blind with the enthusiasm of one idea.

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* I defined antisepsis in my paper as having for its object ". . . the prevention of contact between open tissues and living disease germs." This was a platform upon which I could stand without fear of being misunderstood. Yet I doubt whether the object was fully attained.

* *Vide supra*, second paragraph of first quotation.

He further declares:

> "It is not pretended, as stated by the essayist of the evening, that general infection is caused by the direct entrance of bacteria into the general system. . . ."

This is best met with the sample questions—Whence are derived the microbes that infest the blood in anthrax? Whence those which are found in tuberculosis? Whence those that are supposed to be productive of cholera? How do those germs get into the marrow of bones, which my friend believes are the cause of osteo-myelitis and which I believe are not? Moreover, in speaking of infection I was careful to say at the beginning of my paper, and repeatedly thereafter, that the consideration of general infection had to go hand in hand with that which was purely surgical.

Further on he states:

> "The peritonæum does not seem to have that greediness, so to speak, for germs and their products evinced by other tissues, and, in fact, has recently been proved to be a much more tolerant and tractable membrane to deal with than was formerly supposed."

The doctor credited me with making gratuitous assumptions. It has always struck me that the statement just quoted embodied a decidedly gratuitous assumption. It has been the common assumption, since the fact became established by incontrovertible evidence, that antiseptics were not required, as a rule, in abdominal surgery. (Yet notice how some of the laparotomists in New York city clamor for antiseptics.) The fact also remains that the peritonæum actually does present a surface of great absorbing capacity. Milk and coloring matter injected into it are rapidly removed. Inject the bacilli of tubercle and of anthrax, and there is no trouble about their absorption, or, as I might say, of their leucomaines. The truth is that surgeons have had a longer and better experience in abdominal work in connection with antiseptics than in any other branch. When they have reached the same degree of operative skill in other operations from an equally extensive experience, they will, I venture to predict, say that in these cases also antiseptics may be set aside.

Continuing, he remarks:

> "It is in compound fractures, large incised wounds, and injuries of that class, that the differences between the old and the antiseptic treatment are the most marked."

In answer I shall quote again from my paper, where it is stated that—

> "Absorption must almost of necessity be as easy from a simple incised wound having, say, an extent of surface equal to one or two square inches, as one ten or twenty times as large. If germs cause fever, they should be practically as effective on a small surface as on a large one. They are capable of multiplying. The question is one of absorption and a struggle between cells and germs. Now, whether the surface be large or small, the proportion of germs active in a given area remains the same. The trouble at first is purely local between the germs and cells. If the cells can not overcome the germs, the latter are supposed to overcome the former, and it is only after winning in this local battle that the dread microbes can enter the system to spread havoc. This is the platform of the microbist. It is not irrational. It is the intermediate and conciliatory view. This all being accepted, the question of great interest is, Why should minor surgical cases and small wounds not give rise to septic trouble and refuse to heal promptly, as do a larger proportion of major cases? Germs do not explain it. The condition of the patient does. Major cases are more devitalizing, and diminish more the resisting power and leave less for local tonicity."

Again he says:

> "Failure of drainage, sepsis, and other untoward conditions, are quickly announced by the thermometer or by the occurrence of pain."

Cases in which the dressing, though well applied, has not proved safe are very numerous if we but choose to recognize them. We do not even have to look for them. I will instance one. If I recall it exactly, it was an amputation of the upper extremity. The buried-suture plan was carried out under antiseptic precautions by one of the most careful of operators. At night the surgeon was startled to learn that his patient's temperature was up between 104° and 105° F. There were also pain and tension. The dressing was removed, the stitches were taken out, and the wound was allowed to heal by the open method. The temperature promptly came down, the other symptoms quickly disappeared, and recovery took place without an untoward symptom.

I insist more than ever on the correctness of the statement that antisepsis is largely responsible for diminished and inadequate care for the general condition of the patient before or after operation, or both. I have seen this illustrated too often, both in Brooklyn and in New York, to give up the idea.

Dr. Fowler's conclusions are but natural for one holding his views, and it is proper that he should so express himself under the circumstances.

I tried to be fair toward Lister in making the annexed statements:

> "45. Practical antisepticism, or Listerism, has its advantages and its disadvantages.
>
> "46. It does good by having revived and improved upon well-recognized and highly valued older methods.
>
> "47. It has unconsciously furnished a means of overcoming the local tonicity of wounds, and it did so at a most opportune time.
>
> "48. This is accomplished by the stimulating effect upon the tissues of the so-called antiseptic preparations in moderate strength and for a limited time.
>
> "49. It has done good by instigating daring surgery, and leading to the achievement of the most brilliant, undreamt-of, and unhoped-for results.
>
> "50. It is seductive, and causes men to adopt and follow it who would be neither clean, gentle, nor careful without it.
>
> "51. Listerism may be designated a 'Godsend' to patients who have to put themselves under the surgical care of a large proportion of our fellow-practitioners, both in the city and country.
>
> "52. This is so because it controls them as religion controls the masses."

One of the gentlemen who discussed my paper admitted, while paying me a visit in my Brooklyn office, that he had come to the meeting at which the paper was read in such mental antagonism to it that he did not notice the foregoing statements when read, had no recollection of them, and was surprised that they had not impressed themselves upon his mind.

Another gentleman who discussed my paper, and who did not wish to have his remarks reported, for reasons sufficient to himself, stated at the time that my opponents ignored *in toto* the main points at issue, and also the hard, unyielding facts of the instanced experiences of Dr. J. A. Dupré, Dr. E. H. Bartley, Dr. W. J. Brandt, Dr. Charles Jewett, Dr. B. F. Westbrook, Dr. A. Warner Shepard, Dr. H. T. Halleck, Dr. J. W. Hyde, and Mr. Lawson Tait. My own experience was referred to in the following words:

> "In my own practice (hospital, dispensary, and private), in a period extending over four years and a half, every surgical case, with only four or five exceptions, was so treated as to carefully avoid anything that might be construed as antiseptic. Yet in all these cases I have still to note my first failure to obtain primary union when it was attempted. The list comprises a number of injuries and operations, from a simple incised wound or amputated prepuce to an excision of the left upper jaw and part of the adjacent bones. I have purposely refrained from detailing any of my cases or tabulating the whole list because these experiences are very common, and especially so among men who combine post-mortem work with operative surgery. It was the rule in my own cases to operate shortly after having made a post-mortem examination, or after the handling of anatomical material in various states of preservation. Soap and water was the only material employed to cleanse the hands, which, however, did not prevent the usual post-mortem aroma."

Dr. Fowler's paper was defective in several particulars: 1. Knowing where and when my paper appeared, he gave no reference as to where it was to be found, so that it could be consulted by the reader, if desired. 2. He failed to quote me literally, although my deductions were made in separately numbered paragraphs at the end of the paper for ready reference. 3. He utterly ignored my two special explanations as to my meaning in the use of the words primary and secondary union, and suppuration. 4. He credited me with only one explanation of the non-union of wounds, whereas I had carefully and repeatedly mentioned that there were many such, and even gone so far as to admit the possibility of germ infection in some instances. 5. He apparently ignored my repeated statements that antiseptics were useful and did good, but not as germ-killers, as was so generally and thoughtlessly supposed.

I believe the first to have been due to the inadvertence of a very busy mind; the second, to trusting to memory and a desire to economize space; the third, to a misconception; the fourth, to an oversight; and the fifth was possibly only apparent. Moreover, nearly every part of the doctor's paper was printed as it had been written before my article had appeared. My paper was a long one, and was rapidly read. In this way erroneous impressions might easily have been formed. Had the doctor's paper only appeared in the usual way in the society's proceedings, I should not have replied; but, appearing as a separate article, it seemed to me justifiable to write a reply, so that my views might not in this inadvertent way be received by some in a modified form.

In conclusion, I may be allowed to express the wish that my genial friend may at least live and continue his numerous and brilliant operations until the time when he will freely acknowledge, with his usual frankness, not only that is Listerism an extremism, but that the routine employment of antiseptics on a large scale is uncalled for and a waste of time and material, and that a neglect of these manifold precautions is not criminal.

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DISLOCATION OF THE HEAD OF THE RADIUS DOWNWARD

(BY ELONGATION).

By R. VAN SANTVOORD, M. D.

In the "New York Medical Journal" of January 3, 1885, Dr. Frank H. Hamilton published, under this heading, a translation of a note by Dr. G. Poinsot from the French edition of his "Treatise on Fractures and Dislocations," with comments by himself. At his request, I undertook a series of experiments on the cadavers of children with reference to this lesion. I deeply regret that Dr. Hamilton's death before the completion of my observations deprives them of the added value of his comment.

The dislocation in question is said to be peculiar to childhood, being "most frequently observed in children two or three years of age; after six years it becomes exceptional. Bourguet, however, met with an example of it in a child thirteen years and a half old. Again, Dugés has met with it in a newly born infant, and Malgaigne in children still nursing." *

Its cause is said to be violent traction on the forearm or wrist, with or without torsion, such as is made by lifting a child by the wrist over a gutter, or by pulling the arm through a tight sleeve. As a result of the traction, a cracking noise is heard, the child cries out with pain in the elbow, and resists attempts to move the arm, and the limb seems powerless. The forearm is observed at different angles of flexion in different cases, one-quarter flexion being the rule. The forearm is almost always more or less strongly pronated, as a rule being between pronation and half pronation, but, exceptionally, is extended and supinated. The head of the radius is said in some cases to be displaced slightly forward, in others slightly backward, but frequently no deformity at all is observable. Pronation of the forearm frequently causes the head of the radius to project forward. In cases in which the forearm is pronated and an attempt is made to carry it into supination, a marked and firm ("bony") resistance is felt. This resistance is the characteristic positive symptom of the lesion. When the forearm is in supination, resistance is to pronation. The dislocation in most cases, probably, ultimately becomes reduced spontaneously by the muscular movements of the child. When recognized, the ordinary form is generally readily reduced by forced supination, followed by sudden flexion. In the variety in which the arm is in supination, forced pronation alone is said to be efficient. In the reduction a click is heard, the mobility of the arm returns, and the pain disappears, the child quickly desiring to use the limb. In the one case that I have seen clinically, the child insisted on taking its arm out of the sling the morning after the reduction. In some subjects repeated dislocations occur as the result of supposed laxness of the ligaments (possibly the carelessness or brutality of the nurse). Pingaud * cites two cases in which the lesion, evidently old, about to be described below, was found in adults, so that it seems probable that, exceptionally, it may give rise to permanent injury to the joint. For a full discussion of the points touched on in this brief sketch, the reader is referred to the literature cited in Dr. Hamilton's paper, especially Pingaud's article.

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* From the above-mentioned translation.

My investigations of the subject have been made with reference to certain points in the pathology of the lesion, of which hints are contained in the previous literature of the subject, but which Pingaud seems to have been the first to definitely formulate, his views being based on experiments upon the cadaver.

The following is the *résumé* of his observations as regards the pathology of the injury:

1. The anatomical lesion consists of a displacement of the annular ligament, of which the inferior semi-circumference mounts above the head of the radius and interposes itself between the articular surfaces; added torsion of the member inward may cause subluxation of the head of the radius forward.

2. In certain cases in which the ligaments are very lax the lesion may consist in a subluxation forward or backward, or rupture of the annular ligament as a result of torsion of the forearm inward or outward.

3. There may also be rupture of the dorsal ligaments of the wrist as a result of the same trauma which causes the dislocation, but not of the triangular ligament.

With reference to its mode of production he concluded:

1. Elongation pure and simple may cause a luxation directly downward, with interposition of the annular ligament in front.

2. Elongation associated with forced pronation may determine a luxation, complete or incomplete, with interposition of the ligament.

3. Elongation associated with forced supination remains without effect on the primitive displacement downward.

My own experiments were made upon the bodies of seventeen infants, ranging from three days to three years, all but one being of ages below that at which the lesion is said to be most common clinically. By making traction upon the wrist when the joint was bared by removing the integuments, the extensor carpi radialis longior, and supinator longus, almost without exception a slight snap would be heard, and the tissues would be seen to sink in between the head of the radius and the condyle of the humerus. In one case the furrow disappeared on ceasing the traction, but in most of the others one or other of the various manipulations about to be described was necessary to efface this depression and to restore to the joint its full mobility, a check being felt to pronation, supination, or both, before reduction was effected. Examination showed that, as Pingaud states, the traction had caused the anterior portion of the annular ligament to slip up over the end of the radius. The snap that accompanied reduction was obviously caused by the slipping back of the ligament into place. The dislocation was most easily produced when the forearm was semi-pronated. It was in two cases produced with difficulty when the arm was in forced pronation; in other cases it could not be produced in this position by an amount of force which it seemed possible to use without breaking off the lower humeral epiphysis. In supination the dislocation was more easily caused, but not so easily as in semi-pronation.

I have noted that in five only of my cases could the dislocation be produced with the integuments intact by an amount of force seemingly consistent with the integrity of the lower humeral epiphysis. In more than one case this was separated before dislocation apparently took place. The amount of force necessary to cause the dislocation in the bared joint was so slight that I suspect it occurred and became spontaneously reduced in some of these cases when the attempt was made, apparently in vain, in the unmutilated arm. As most of the subjects were emaciated foundlings, it can readily be supposed that their dry, shrunken tissues—*i. e.*, integument and muscles covering the joint—were more resistant than in life and health, and either prevented the dislocation or dragged the bone back again into place by their elasticity. In a child of three years the dislocation was easily produced on both sides, the arms being in forced supination. The fact remains that the lesion described by Pingaud could unquestionably be caused by a moderate amount of force in a considerable percentage of unmutilated arms.

In one case a marked snap was heard after traction upon an arm. The head of the radius was found to roll forward on forced pronation, but no reduction could be effected. Examination showed that the annular ligament had been torn loose from its attachments to the condyle of the os brachii and descended with the head of the radius when it was pulled down.

In another case, after forced twisting outward of the forearm of a child twenty-six days old had fractured the os brachii without injury to the elbow, violent jerking of the extended arm, with bending of the joint backward, caused the upper epiphysis of the ulna, the ligaments attaching the annular ligament to the os brachii, and the anterior part of the capsular ligament, to give way, so that the head of the radius was thrust part-way out of the annular ligament. These were the only cases in which, after the joint was bared, increasing traction failed to cause dislocation of the annular ligament before any other structure appeared to give way.

In most of my subjects reduction could be readily effected either by forced pronation or supination when the force used in causing the lesion was just enough to drag the head of the bone below the annular ligament, reduction being preceded by a slight feeling of resistance and accompanied by a slight snap. In two cases reported by Dugés* reduction was effected by pronation—in one accompanied by bending the arm toward the ulnar side, in the other by extension. In two of my subjects *pronation* caused reduction when *supination* alone did not. When both were efficient, pronation succeeded most readily. When the ligaments were relaxed, and, probably, more or less lacerated by repeated dislocation and reduction, or by jerking the forearm this way and that, or when the anterior fibers of the capsular ligament were cut, pronation, instead of reducing the dislocation, caused the head of the bone to roll forward, disengaging itself more and more from the annular ligament.

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* Pingaud, art. "Coude," in "Dict. encyclopédique des sci. méd.," 1re série, t. xxi, p. 529.

I observed that when the dislocation was produced by traction when the arm was in forced *pronation*, reduction and resistance were absent on pronating, but either both present or both absent on supination, reduction being in this latter case either impossible or possible only on forced flexion, with perhaps some of the accessory manipulations about to be mentioned. In this latter case, all resistance to either pronation or supination being absent, the condition of affairs existing in dislocation of the head of the radius in the adult was probably produced.

Violent twisting of the arm in pronation or supination, *without extension*, either broke the shaft of the os brachii or severed the upper ulnar epiphysis, but did not injure the radio-humeral joint at all.

The mechanism of the reduction by forced pronation, as can be seen by watching the process in the bared joint, consists in the forcible pulling up of the head of the radius into the annular ligament by the twisting of the capsular ligament. The integrity of only a small portion of the inner part of the ligament in some cases seemed enough to secure reduction. When these fibers are stretched or broken, the head of the radius is seen to roll out from under the annular ligament on pronating the forearm. When reduction by pronation ceases to be possible, forced supination alone, or supination followed by forced flexion, usually succeeds. The mechanism of reduction by supination, pure and simple, is apparently the same as that by pronation—viz., the traction of the capsular ligament shortened by twisting, except that in this case the outer portion of the ligament is the portion which does the work. When flexion is found to be a necessary auxiliary, the mechanism is different. In these cases the interposed annular ligament is caught in the angle between the head of the radius and the condyle. As the angle becomes more and more acute with increasing flexion, the ligament is seen to be gradually forced out from between the bones until it finally slips up into its place with an audible snap, just as a wet seed is expelled when pressed between the thumb and finger. In one case reduction was effected by this same mechanism when the radius, in extension, was simply pressed against the condyle. In another, forcible pressure against the condyle had to be associated with supination and flexion. In still another, the head of the radius had to be pressed backward by the thumb, in combination with supination and flexion. In another, the forearm was flexed and abducted as much as possible. The end attained by these accessory manipulations was obviously to retain the radial head in its proper relation to the condyle, so that the displaced ligament could be kept in the angle between the bones and squeezed into position. All of these manipulations have been described by one author or another; but no one, as far as I know, has pointed out just what was accomplished by them. In one subject the two mechanisms had both to be called into play. Pronation alone failed to reduce. Supination and flexion partially replaced the ligament, but complete dislocation recurred on the slightest traction. When, however, the forearm was pronated after supination and flexion had partially replaced the ligament, complete reduction was effected.

The resistance to pronation, supination, or both, which is felt on manipulating the arm in this dislocation, is obviously due to the same twisting of the capsular ligament, which draws the head of the bone up against the annular ligament rendered tense by the twisting of the tissues, the snap accompanying reduction being caused by the slipping of the ligament into place. When dislocation was caused in forced supination, the outer fibers of the capsular ligament were ruptured or stretched so that resistance was not felt, nor was reduction effected by forced supination. Resistance and reduction, however, followed forced pronation, because the inner part of the capsule could still be shortened by torsion. When dislocation was effected in forced *pronation*, either the exact reverse followed or so extensive a laceration of the capsule occurred that reduction could be produced only by forced flexion, with perhaps some accessory manipulation to hold the head of the bone in place during flexion, or not at all.

In a case illustrating this latter occurrence the joint gaped open behind on flexion, the anterior edge of the ligament slipped over the head of the radius on forced flexion, but fell out again as soon as the arm was released.

In my earlier experiments I usually arrived at a point after repeated dislocation, torsion, etc., of a joint at which reduction became seemingly impossible. In one case this happened in a joint after the first dislocation by slight violence. I was then blindly groping after some manipulation or manipulations which would reduce the dislocation, in total ignorance of the mechanism of reduction when successful. I am convinced that my success would have been greater had I possessed the knowledge which I afterward acquired, and had been more intelligent in my efforts.

The mechanism of reduction explains certain points in the pathology and ætiology of the lesion which I have above mentioned. The shortened, twisted capsule of the joint seems to be the obstacle which prevents or renders difficult dislocation in extreme pronation. If dislocation does occur in this position, it involves necessarily a much greater injury to the capsule than in the semi-prone position. In the supine position this twisting of the capsule offers a similar but smaller amount of resistance. In other words, it is the traction downward alone which gives rise to this dislocation as it ordinarily occurs. The varieties met with depend upon the amount and location of lesions of the ligaments, mainly the capsular, these latter depending seemingly upon the elasticity of the ligament, age of the subject being an important factor, the position of the forearm as regards pronation or supination when the traction is applied, and the forcibleness of the latter. The amount of deformity appreciable was in my experiments practically *nil* beyond the slight rolling forward of the head of the bone on pronation in cases in which that manœuvre did not cause reduction.

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* "Journal hebdom. de méd.," 1831, t. iv, p. 197.

The following is the single undoubted case that I have seen in the living subject: A boy of two years came home, after being out with his nurse, with his left arm slightly flexed, semi-pronated, and helpless. The nurse did not know (?) how it had happened. A similar accident had twice happened to the other arm, the patient having been treated, with perfect ultimate result, for "distortion" of the elbow. I saw him on the day following the injury. The child cried when I attempted to touch the arm. Pronation was easy, but did not cause reduction. I was not able to discover any swelling or deformity. Forced supination and flexion caused an audible snap, preceded by a sense of resistance, and the movements of the arm became at once free and painless. The little patient insisted on taking his arm out of the sling and using it the following morning, no evil results following.

As the result, therefore, of my observations, I must express my conviction that Pingaud has definitely set at rest the pathology of a lesion about which there has been a great deal of discussion among surgical writers.

In my experiments the dislocation of the annular ligament occurred in every case in which traction produced any observable lesion at all in the humero-radial articulation, with the sole exceptions of the one in which the annular ligament separated from the condyle, and one in which this lesion occurred simultaneously with others. In the first case it is possible that its attachments had been weakened by accidental cutting in laying bare the joint. The check to pronation or supination was entirely absent in these cases. In his comments on Poinsot's note, Dr. Hamilton says: "I entertain some doubts whether further experiments will not show that it is not the true explanation of *all* cases belonging to this special class of accidents; and whether, indeed, it will not be found to be the exception rather than the rule. I shall be disappointed if further experiments do not show that in most of these cases there is nothing different from a subluxation as it occurs in other joints—namely, a stretching or partial rupture of the capsule, or of the ligaments, which, in certain positions of the radius, allow the head to become partially displaced. If this is shown to be the fact, then the displacement of the annular ligament observed by Pingaud must only be regarded as a complication, etc." He says further: "Another difficulty in the way of Pingaud's theory of mechanism as applied to the accidents in childhood caused by lifting, is that it only applies to the forward dislocations, leaving the backward dislocations unexplained." My answer to this criticism, based on my experiments, is that the dislocation of the annular ligament can, in most cases, be so easily produced that it is probably a very frequent occurrence. When the capsule of the joint is little injured, reduction is so easily effected that it is probably effected spontaneously, in many cases so quickly that the surgeon is not called in. In the severer cases, laceration or stretching of the capsular ligament renders reduction more difficult and recurrence more easy, but replacement of the head of the bone within the annular ligament is absolutely necessary in order to place the parts in their normal relationships; it is, I believe, the one unvarying factor of the accident—*i. e.*, excepting, of course, those cases in which the annular ligament is torn loose from the os brachii. I am not aware that this latter lesion has been observed clinically. Dislocation of the annular ligament should therefore, I think, be regarded as the main lesion, the laceration of the capsular ligament as the complication. In injuries to this joint in the adult, serious damage to the annular ligament is more likely to occur. It may be so torn or displaced as to render its replacement, or retention after replacement, impossible. I suggest, however, that it would be worth while in such cases to make an attempt at such replacement, bearing in mind the mechanism above described. The objection based on the fact that Pingaud's theory fails to account for the occasional cases in which displacement backward is observed, my researches throw no light upon.

Dr. Hamilton's suggestion, that cases in which all possible movements can be imparted to arms which have been powerless after an injury but which speedily recover are cases of injury to the musculo-spiral nerve, is one worthy of consideration. The possibility, however, of spontaneous or accidental reductions, which Dr. Hamilton mentions as the explanation previously given for such cases, I am sure is very great.

20 East One Hundred and Twenty-fifth Street.

A CASE OF
PRIAPISM OF THREE YEARS' DURATION, WITH RECOVERY.*

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On July 15th I was called to see an English gentleman, fifty-three years of age, who was suffering intense pain in his penis, and whom I found greatly exhausted from an erection that had lasted uninterruptedly for five hours. Upon examination the organ was found to be of unusual rigidity and in a state of violent and continuous spasm. It was not until three quarters of a grain of morphine and one fiftieth of a grain of atropine had been hypodermically injected that the paroxysm was controlled. The patient, after partaking of some broth, fell into a troubled sleep, from which he awakened in five hours with another erection. He was now put into a hot bath, in which he remained about ten minutes, the severity of the spasm not having been appreciably mitigated. Two hypodermics of Magendie's solution—one of ten, the other of eight minims—were administered before the paroxysm was checked.

During the day two slight paroxysms occurred, one lasting forty-five minutes, and the other, which occurred three hours after, lasting eighteen minutes. Both were controlled by morphine. In all four of these erections the penis was in the same state of extreme rigidity, but with none was there a loss of semen. After the subsidence of the paroxysm a small quantity of glairy mucus escaped from the meatus.

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* Read before the New York Clinical Society, November 26, 1886.

No language could adequately describe the intensity of the patient's sufferings during one of these attacks.

The rigidity of the penis was remarkable; the corpora cavernosa seemed almost cartilaginous; the veins were distended like whip-cords, and the glans penis, from its turgescence, seemed double its normal proportions. The accelerator urinæ and erector penis muscles could be readily felt in the perinæum like dense fibrous bands.

The contraction of these muscles more closely resembled the spasms of tetanus than any other condition to which I might compare them. Like the spasms of tetanus, they were frequently excited by any jarring of the room—as from passing vehicles.

Previous History.—Four years before, the patient enjoyed perfect health and occupied a responsible office under the British Government. An irregularity appearing in his financial accounting, an examination of his accounts was ordered. This examination occupied some six months, and, although it ended in the vindication of the man, it left him in a condition of melancholia, aggravated by intractable insomnia and dyspepsia. Shortly after this, the sudden death of his wife was an additional blow to him. For thirteen weeks he was greatly prostrated, and, although suffering no pain, he could take but little nourishment and slept with difficulty. Though there were no fever and no apparent causes operating to produce emaciation during these thirteen weeks, he lost upward of forty pounds in weight.

In September, 1883, he began to have erotic dreams of a most lascivious nature. Frequent nocturnal emissions occurred. Erections occurred not infrequently during the day, these often lasting from one to three hours. This state of things continued until the summer of 1884, when, by the advice of his physicians, he went to Switzerland. There, exercise afoot and on horseback greatly improved his bodily health and restored his sleep.

Upon returning to London in the autumn, however, all his old trouble returned, and so weakened did he become that he could walk scarcely half a dozen city blocks, whereas in Switzerland he would walk that number of miles without undue fatigue.

During the winter, with but rare exceptions, he had from one to three involuntary emissions nightly, and during the day he would have rigid erections without seminal discharges. At this time he resigned his public office and gave himself up to the recuperation of his health. About January 1st he consulted Charcot, who ordered spinal douches, a vegetable diet, and strychnine and arsenic. Under this treatment he improved greatly, and, although still troubled with occasional diurnal erections and nocturnal emissions, he felt able to bear the fatigue of a journey to the Pyrenees and the mountains of southern Spain. Again his old trouble returned. Once or twice at night, and generally eight or ten times during the day, he would experience a sudden erection, unaccompanied by any erotic emotion or lascivious thought. This would continue anywhere from fifteen or twenty minutes to an hour or an hour and a half. Rarely were these erections accompanied by an emission, although there was generally some slight mucous discharge. Not improving in Spain, he went to the Tyrol, and subsequently passed through, as he tersely expressed it, "a winter of horrible erections" in Italy and Egypt.

In June he took passage for America, hoping to benefit from an ocean voyage. On July 15th he fell into my hands. At this time he was greatly emaciated and careworn, having lost nearly one hundred pounds in weight during the four years of his sickness. He now weighed but one hundred and thirteen pounds, whereas he had turned the scales at two hundred and five when first taken ill. His muscles were soft and flabby; his pulse was 98, and very weak. His temperature in the mouth was 97° F. His pupils were normal, the fundus oculi being extremely pale. Physical examination was negative so far as evidencing any organic disease that would produce this extraordinary condition of affairs.

No evidence of either cerebral or spinal disease was found. Cutaneous sensibility was normal; the reflexes were normal. His bowels were somewhat constipated. The urine was alkaline or neutral, with rather low specific gravity, 1·010 to 1·014, and contained large quantities of oxalate of lime.

His family history was excellent, and, prior to this attack, his own health had been exceptionally good. He had never suffered from rheumatism, gout, renal or syphilitic disease, and he had never received any injury. His bladder had been frequently examined for stone, with negative results. The testes were small; the spermatic veins normal. There was no urethral, prostatic, or rectal disease. In fact, repeated examinations made by most distinguished men abroad had failed to discover any cause for his present malady.

For over a year previous to the time I saw him his erections would occur from three to twenty times a day, and would last from a few minutes to five or six hours at a time. Latterly they had been of shorter duration but of more frequent occurrence, and the spasms accompanying them were more violent and painful.

Previous Treatment.—Needless to say, having consulted many men, he had about exhausted the list of therapeutical resources. For over six months he had taken enormous doses of the bromides without any appreciable effect. Camphor, opium, cannabis indica, ergot, chloral, galvanism, hot and cold spinal douches, had been repeatedly employed, but without controlling the disease or mitigating his suffering.

At the time I first saw him he had about determined to abandon further treatment, controlling the severity of his paroxysms when they occurred with morphine, and trusting to a speedy relief from his intense sufferings in death.

A careful study of this remarkable case led me to feel that, as long as no serious organic disease existed to prevent recovery, there ought to be some available relief.

Here was a man in the prime of life, who had enjoyed excellent health up to a time when, from nervous causes alone, such a neurasthenic condition had been developed that involuntary erections, with seminal incontinence, had occurred. These, with an impaired condition of health, became so aggravated that the patient had succumbed to despondency and pain.

I saw no reason why, under a careful hygienic and therapeutical course of treatment, his condition should not be at least improved.

The following course of treatment, purely empirical, but certainly rational, was therefore recommended:

1. To preserve his vitality in the best condition possible, and to husband his strength, he was put to bed. For the relief of his dyspepsia he was put upon a diet of peptonized milk with Murdock's food.

2. Believing that there must be impaired circulation through

the cord, whether due to an anæmic or congested condition I shall not pretend to say, spinal spongings of very hot and very cold water, applied alternately down the spine for a period of ten minutes, were employed three times a day. This sponging was used in preference to galvanization, because he had repeatedly received galvanic treatment at the hands of experts abroad without benefit.

3. To relieve any possible congestion that might be existing, applications of the actual cautery were made down the dorsal and lumbar spine on three occasions. The most marked improvement followed these applications.

4. In order to control the circulation of the cord, the fluid extract of ergot was administered in drachm doses, at first three times a day, this being increased later on to a drachm each three hours. Hypodermics of the hydrochloride of strychnine, commencing at one sixtieth of a grain and increasing to one twentieth of a grain, were given each day.

5. To abort the paroxysm, a spinal ice-bag was applied to the spine at the commencement of the paroxysm, and a full dose of morphine with atropine was administered hypodermically. Upon two occasions, when the paroxysm did not yield to the morphine within twenty minutes, chloroform was given by inhalation.

At the expiration of the second week of the foregoing treatment the general condition of the patient had so far improved that, in addition to milk, he was taking a full farinaceous diet, with boiled fish and the white meat of chicken. His erections were now occurring not more than once or twice in twenty-four hours and were far less severe.

During the third week of treatment, on two different occasions he passed the twenty-four hours without an erection, and at no time did he have more than one paroxysm a day, lasting about fifteen minutes. During the same week the hot and cold douches were discontinued, and a mild descending current was applied to the spine for ten minutes each day.

The progress of the case from this time on was one of rapid improvement. I saw the patient on the second of the present month, and found that during the three months and a half since the commencement of treatment he had gained thirty-five pounds in weight, and had had no erection further than any normal man might experience for a period of over two months.

STAB-WOUND OF STOMACH AND DIAPHRAGM.*

By A. H. BUCKMASTER, M. D.,
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In June, 1884, at one o'clock, John F., nineteen years of age, received a wound from a shoemaker's knife ground to a point. It entered at the eighth intercostal space, two inches to the left of the mammillary line. He was seen shortly after the injury by a young surgeon, who examined the opening with a probe, and did not think the wound had perforated the pleural cavity.

The patient was removed to St. Peter's Hospital in the afternoon, and at this time had reacted from the shock, which was said to have been severe. He was put to bed and given a glass of milk, as he complained of great thirst. At five o'clock I noticed on the dressing what appeared to be curdled milk. Rendering my hands thoroughly aseptic, I introduced a finger into the wound, and passed it through an opening into the diaphragm.

Dr. Wunderlich, although not on duty at this time, was the only gentleman of the surgical staff who could be reached. He decided to close the rent in the stomach or intestine, as the case might be, and thus give the boy the only possible chance for recovery. An incision was made in the median line through the abdominal wall above the umbilicus. After a slight search, which was assisted by the passage of a catheter through the opening in the diaphragm, the wound permitting the passage of the curdled milk was found in the greater curvature of the stomach, anteriorly, nearer the cardiac than the pyloric orifice. It appeared as an almond-shaped mass of crimson mucous membrane, about three fourths of an inch in length. The doctor turned in the everted mucous membrane and united the serous surfaces by a slight modification of the Lembert suture, using catgut. The abdominal cavity, which was filled with a dark-colored, intensely acid fluid, was washed out as well as possible with a Davidson's syringe.

The patient looked so weak that it was determined not to unite the wound in the diaphragm, and he died about an hour after the operation.

An autopsy made on the following day showed that the wound of the stomach had been securely closed, but more or less of the dark-colored, acid fluid was found in the pleural and peritoneal cavities.

Through the diaphragmatic opening had passed a coil of intestines. Whether this was wholly post mortem or not I am unable to say.

Wounds of the diaphragm must be of rare occurrence, as so little mention is made of them in the text-books. In Dr. Pilcher's recent work on the treatment of wounds I can find no reference to them whatever. The character of the tissue of the diaphragm, its constant motion, and the great danger of the intestine insinuating itself into a wound of this organ, render it most troublesome to treat.

Correspondence.

LETTER FROM PARIS.

Professor Debove on the Diagnosis of Cancer of the Stomach.—Salicylized Beer and Canned Articles.—The Lacaze Prize.

PARIS, *December 29, 1886.*

PROFESSOR DEBOVE, speaking recently at the *Société médicale des hôpitaux*, on the question of cancer of the stomach, said that it was very often extremely difficult to make the diagnosis, and he called attention to the fact that the German writers had written a good deal of late years to show that the absence of hydrochloric acid in the stomach liquids was a very important sign of cancer of that organ. Dr. Debove himself has been making a long series of experiments to see if this is of any value, and all his cases seem to prove that the fact is certain—so much so that he does not hesitate to declare now that it is an absolute rule in all patients attacked with cancer of the stomach that there will be found not the slightest trace of hydrochloric acid in the stomach juices. He presented to the society a patient who was a fresh example of the sign he wished to prove. Early in 1886 this man, who was about forty years of age, began to have some digestive troubles, accompanied with vomiting, and in August last he suffered with sharp pains in the epigastric region, and then came into Dr. Debove's wards. At first he was taken for a simple dyspeptic patient, but the gastric juice was examined, with the result of constantly finding lactic but never hydrochloric acid. About a month ago a tumor was found in the usual region, which to-day is as large as an egg, and shows all the characteristic signs of cancer. As the sign of absence of hydrochloric acid existed when the patient was first seen, and when he was legitimately considered as only a dyspeptic patient, Dr. Debove is disposed to accord to it the utmost importance in the diagnosis of the disease. In the case cited, although there was some loss in weight, the patient was not cachectic, nor had he hæmatemesis or melæna, so that it was impossible to say that he had anything but dyspeptic symptoms. It is to be hoped that physicians will at once report all cases of the want of hydrochloric acid in the fluids of the stomach, and state what relation it bears to cancer, as, if this sign is sure, a very simple and easy mode of early diagnosis is discovered. Dr. Debove does not approve of the old method (Spallanzani's) of causing the patient to swallow a small sponge, and then withdrawing it, to obtain the gastric juice, but prefers to use a stomach-tube, and he also examines the vomited matters. As to reagents, he uses gentian-violet and Poirier's No. 4 orange-color for the hydrochloric-acid test, and perchloride of iron and carbolic acid for the lactic acid. The gentian-violet gives a blue color, the Poirier's solution gives red, and ten drops of a watery solution of carbolic acid, with three drops of solution of perchloride of iron, will pass from an amethyst-blue to yellow, in the presence of lactic acid. It should be stated that experiments were first made on healthy subjects, to get and test the normal hydrochloric acid from the gastric juice, and that these trials should be made during digestion.

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* Read before the Medical Society of the County of Kings, September 21, 1886.

Some few years ago but little good beer could be had in Paris, notwithstanding the fact that most of the cafés displayed a sign saying they kept Vienna and Munich brewings. The current joke then was that the Vienna and Munich beer mostly came from Charenton and Bercy, thus expressing the fact that they were all made near Paris. When the real article was introduced it made rapid headway, and before long Paris was astonished to see beer saloons in the Queen Anne style springing up all over the city, while whole special trains of Munich beer were arriving at the Northern Station daily. The excellence of the drink and the fact that the toiling millions were tired of drinking a chemical mixture *called wine*, brought about this great trade. It had been found that it was a sheer impossibility to furnish real grape-juice to the French masses, for the small sum of ten to twelve cents a quart, so the German beer found a good market. This was all very well until a few months ago, when a great outcry was made by the French papers to the effect that their old enemies were trying to poison Paris with their beer, which was highly charged with salicylic acid. This was followed by a protest signed by all the German brewers saying that they used nothing but malt. The matter was, however, brought up before the savants of the *Académie de médecine*, and the secretary of the committee, M. Vallin, has just made a report of the affair which is of considerable interest to the medical profession and to all hygienists, as the practice involved may be one that is spreading, and it should be stopped as soon as possible. The French sometimes say a good deal of American canned goods, but, like every one else, they often fail to see the mote in their own eye. We well remember Professor Brouardel's saying last year that at the Government chemical laboratory it was the habit to pass all canned peas that contained only a certain proportion of copper used to color them green. As he put it, "You know that it is impossible to put peas up without something to color them, and the public will not buy them unless they are colored, and, as it is said that copper is not a poison, we have to let a certain quantity of it pass." But, to return to the salicylic acid and its use to prevent fermentation; it is certain that a large number of manufacturers mix it with their liquid and solid goods that are liable to spoil. There have been cases where fish, for instance, were kept by it for some time. Is this dangerous to health? is the great question. In 1884 it was decided that it was, and a decree was issued forbidding the use of salicylic acid in any substance used as food; but little by little this order has become a dead letter, and the *salicylage*, as it is called here, has gone bravely on. The great question to solve is this: Will moderate doses of the salicylates do harm? Clinical experience shows that no serious inconveniences are seen from quite large doses of the drug given in the rheumatic states, but facts of this kind can not be invoked in favor of the general use of them, because the number of such patients is small in proportion to the millions of consumers of the salicylated foods and drinks. Again, the general public is not to be considered ill, and we all know that persons who are really sick will support opium and iodide of potassium, for instance, in doses that they could not bear if they were well. It is also known that people who have kidney disease can not tolerate salicylates, and there are plenty of people apparently well who are suffering more or less from albuminuria. Old persons also can not take this drug; perhaps it is owing to the fact that their renal organs are not in good condition. Again, the very large class of dyspeptics are unfavorably affected by the salicylates, and it may be that this is owing to the fact that these substances, by their anti-fermentative action, have an injurious action on the necessary digestive ferments. It will be said that certain experimenters have tried the use of the salicylates on themselves without the slightest damage; but this is no reason why their use should be permitted to manufacturers, who will introduce them unknown to all the world. It was first proposed to the committee that they should allow their use so long as a certain maximum proportion was not exceeded; but they would not tolerate this, as the salicylates are transformed after a certain time, and the amount would fall, but the drink would be just as dangerous, if not more so, owing to the fact that the products of the decomposition of the salicylates are themselves dangerous. The question must be looked at also from the standpoint that, once authorize the use of salicylic acid in trade, and it will be put into all sorts of food products liable to fermentation that are still without it. It was also proposed to the committee that they could label all such goods, but, with the humbug of the well-known "butterine" products, they felt sure that this could not be carried out. They therefore concluded: "It being well established by medical observation that feeble and prolonged daily doses of salicylic acid and its derivatives can cause considerable trouble to the health of certain persons who are sensitive to those forms of drugs, particularly old people and in those whose renal or digestive functions are no longer in perfect order, therefore the addition of the salicylates to liquid and solid aliments will not be permitted." This edict, it need not be said, will not stop the practice, but it will at least limit it to a great extent.

The great Lacaze prize of 10,000 francs, that is awarded every four years for the best work on the treatment of fevers, typhoid in particular, has just been given to Dr. Albert Robin for his work called "Leçons de clinique et de thérapeutique médicales." M. Robin is one of the professeurs agrégés at the Faculty and a relative of the late Professor Robin's.

The Legion of Honor.—The "Gazette hebdomadaire de médecine et de chirurgie" announces that Professor Fournier has been nominated an officer, and Professor Hayem a knight, of the Legion of Honor.

THE

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MEDICINE AND THE COMMUNITY.

The present status of medicine in the eyes of the world at large, as compared with the state of things that existed but a few years ago, is a subject that medical men may contemplate with satisfaction, and a satisfaction not founded on either egotism or optimism. If we glance at the history of the healing art, a history that is contemporaneous with that of civilization, we find that it is only within recent years that it has been esteemed justly. It is true that Homer spoke of skilled physicians as "more than armies to the common weal"; that individual practitioners have been revered, whether they were scientific physicians pure and simple, or partook more or less of the character of the demigod, the priest, the sorcerer, or the quack; that, on the whole, with a few such exceptions as are to be found in Molière's raillery, general literature has given an honorable and dignified place to representatives of the medical profession; and that in a few instances—such, for example, as that of the school of Salernum—the title of medicine to be ranked as a science has been temporarily entertained. All this, however, was unsatisfactory; in so far as it rested upon any approach to critical appreciation, for the most part it either had reference to an art that was mystified and disguised, or it sprang from admiration for the qualities of individuals rather than for the calling they followed. In neither case was praise really satisfying, although the standpoint from which it was longed for by the physicians of bygone times was doubtless vastly different from that taken by those of the present day.

But a more wholesome state of things is rapidly coming to pass. Whatever importance medicine now holds in the esteem of the world at large is to a great and increasing extent its own, and not the reflected glory of a few popular practitioners. The idea that medical learning is little more than a memorized list of symptoms and their antidotes is almost as nearly rooted out from the people's minds as the old notion that a successful physician was a seer—born, not made. It is getting to be understood that no occult or extraordinary original powers are needed to make a man an efficient practitioner of medicine, but that, given a fair mental constitution, reasonable conscientiousness, systematic training, and moderate experience, the desired product is pretty sure to be turned out, a creditable exponent of the medicine of the times. More than this, medical science is now recognized as progressive in another and a better sense than that of adding accidental discoveries or happy conceptions to its stock. It is to appreciation founded on such grounds that we must attribute the general acquiescence in anatomy laws and clinical teaching, as well as the gratifying frequency with which of late years men of wealth have contributed to endow institutions having for their purpose, solely or largely, the education of coming generations of medical men; the disposition of communities to submit to sanitary regulations based on medical research and administered by medical men; and the willingness of governments to look at military and commercial matters with some regard for the application of medical knowledge.

A writer in the "Union médicale" finds a reason for this change in the closer acquaintance into which modern society has been brought with the actual work of medical men, as exemplified in hospitals, in campaigns, and, above all, in the organized medical service now connected with the great railways and with engineering and manufacturing operations of unusual magnitude. That this agency has had its effect we may undoubtedly believe, but that its action has been subsidiary to that of the essential difference with which now, as compared with former times, the study of medicine is carried on we are equally certain.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 11, 1887:

DISEASES	Week ending Jan. 4.		Week ending Jan. 11.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	18	5	10	10
Scarlet fever	39	6	49	9
Cerebro-spinal meningitis	1	1	8	8
Measles	437	53	537	6
Diphtheria	136	50	122	4

The Alumni Association of the Medical Department of the University of the City of New York will hold its annual meeting, to be followed by the annual dinner, at Delmonico's, on Thursday evening, the 27th inst.

The City Board of Health.—A petition was recently presented to the board, asking that six women might be appointed sanitary inspectors. As there were no vacancies in the force, and as there was no money to pay for additional inspectors, the request could not be complied with. The Committee on Hygiene of the Medical Society of the County of New York has appeared before the board, urging the adoption of an ordinance requiring manure to be baled before it is removed from stables.

The Death-rate of Boston.—During the year 1886 there were 9,263 deaths, or 23·39 to every thousand inhabitants. There were 1,092 deaths from consumption, 770 from pneumonia and other lung diseases, 568 from diseases of the heart, 718 from diarrhœal diseases, 477 from croup and diphtheria, and 322 from diseases of the brain.

The Army and Navy General Hospital at Hot Springs, Ark., it is announced, will be opened next week, with beds for eighteen officers and sixty-four enlisted men.

The Woman's Hospital.—On the nomination of the Medical Board, the Board of Governors recently elected Dr. Fordyce Barker president of the Medical Board.

The Possibilities of Photography.—The "Evening Post" says: "In the 'Camera' magazine a very curious phenomenon in connection with photography is recorded by the person who observed it. He took a portrait of a child apparently in full health and with a clear skin. The negative picture showed the face to be thickly covered with an eruption. Three days afterward the child was covered with spots due to prickly heat. 'The camera had seen and photographed the eruption three days before it was visible to the eye.' Another case of a somewhat similar kind is also recorded where a child showed spots on his portrait which were invisible on his face a fortnight previous to an attack of small-pox. It is suggested that these cases might point to a new method of medical diagnosis."

The New Haven Medical Association.—At the annual meeting, held January 5th, officers were elected as follows: President, Dr. Henry Fleischner; vice-presidents, Dr. William H. Carmalt and Dr. Gustavus Eliot; secretary and treasurer, Dr. Frank W. Wright; finance committee, Dr. F. L. Dibble and Dr. C. A. Lindsley; prudential committee, Dr. Henry Pierpont and Dr. Herbert E. Smith. There are now sixty-one members, an increase of five during the past year. At the twenty regular meetings held during the year there was an average attendance of sixteen, histories of fifty-two cases were related, ten papers were read, nine questions were discussed, and three addresses were delivered. The building fund amounts to $1,644.70.

Adulterated and Factitious Cod-liver Oil.—The "St. Petersburger medicinische Wochenschrift" says that liquid vaseline is being used in the adulteration of cod-liver oil, and that it may be detected by its not being saponifiable. The same journal mentions the American device of making artificial cod-liver oil by macerating herrings in good olive-oil, the product being an oil that has a clear yellow tint and the characteristic smell of cod-liver oil. By allowing the herrings to remain in the olive oil for eight or ten days, a "brown cod-liver oil" is obtained.

Asylum Attendants.—In the "Fifth Biennial Report of the Kansas State Insane Asylum at Topeka," the superintendent, Dr. B. D. Eastman, says:

"One of our greatest anxieties in administration is the difficulty of securing suitable employees in many places, particularly in the immediate care of patients. The welfare and comfort of inmates, and their recovery as well, depend largely upon the personal character of the attendants. In foreign asylums it is customary for persons to expect to make their life business the care of the insane, as attendants; here it is looked upon as a temporary make-shift, particularly by men. The duties of those directly engaged in the care of patients are very varied, and for their most successful performance require talent of no mean order. The attendant needs to control and direct those under his care, and at the same time to be a companion and an entertainer. He must also be an adept at household work, and fertile in resources. It often happens that he who entertains and pleases best fails in housekeeping, while the good housekeeper, who polishes the door-knobs to the brightness of a mirror, rasps the patients' feelings with equal vigor. Hence the complaint is rife all over the country that attendants are continually changing, and so often unsatisfactory. But when the faithful, conscientious attendant is found, he is highly prized, and he may be assured he is laying up treasures, figuratively if not materially."

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 2, 1887, to January 8, 1887:*

RAYMOND, H. I., First Lieutenant and Assistant Surgeon. Ordered for duty at Presidio of San Francisco, California. S. O. 127, Department of California, December 29, 1886.

IVES, F. J., First Lieutenant and Assistant Surgeon. Granted one month's leave of absence, with permission to apply for twenty-three days' extension. S. O. 1, Department of the Platte, January 3, 1887.

Society Meetings for the Coming Week:

MONDAY, *January 17th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *January 18th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Franklin (annual), Kings (annual), and Otsego (semi-annual—Cooperstown), N. Y.; Ogdensburg, N. Y., Medical Association; Connecticut River Valley Medical Association (Bellows Falls, Vt.).

WEDNESDAY, *January 19th:* Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); Roman Medical Society (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological).

THURSDAY, *January 20th:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

FRIDAY, *January 21st:* Chicago Gynæcological Society.

SATURDAY, *January 22d:* New York Medical and Surgical Society (private—annual).

Obituaries.

John Scott, M. D., M. R. C. S. I., of San Francisco, died on Friday, December 24, 1886, of acute pericarditis. Shortly before his last illness occurred, he made a visit to New York, where a slight operation was performed for the cure of a chronic infirmity. At that time his physician here, Dr. A. Palmer Dudley, detected a trifling degree of mitral insufficiency. Dr. Scott's general health was improving, however, and he reached home in better health than he had had before for a considerable period. He at once took up his professional work again with zeal and assiduity. In about a fortnight he was called to San José, and it is supposed that the fatal attack of heart trouble was induced by exposure during the journey. In the course of a few days he began to suffer with cardiac distress, and fever soon set in, with the physical signs of pericardial effusion. Under appropriate treatment, he did well, and was regarded as recovering; but on the tenth day, in spite of the protests of his medical advisers, he went out and resumed his hospital work. After a few days more, he was obliged to take to his bed again, suffering with dyspnœa and failing gradually. At the post-mortem examination, about six ounces of semi-purulent liquid were found in the pericardium, with slight adhesion at one point, and the coronary arteries were seen to be in an advanced stage of atheromatous degeneration. The interment took place on the Monday following his death, in the Mountain View Cemetery at Oakland.

Dr. Scott was a native of Ireland, and was about fifty-eight years of age at the time of his death. Early in his professional life he spent a number of years in India, and was a physician to the Black Town Lying-in Hospital, in Madras. In 1865 he came to New York, and made the acquaintance of Dr. Thomas Addis Emmet, under whose guidance he spent several months in the study of gynæcology and in observing the management of the Woman's Hospital. He conceived an enthusiastic regard for Dr. Emmet, and the attachment continued unabated throughout the rest of his life. By Dr. Emmet's advice, he went to San Francisco and organized the California State Woman's Hospital, of which he was the surgeon-in-chief. His professional career in San Francisco was highly creditable to him, both as a surgeon and as a man. In 1879 he was elected a member of the American Gynæcological Society, and he almost invariably attended its meetings, being usually obliged to perform the long journey to one of the Atlantic cities for the purpose. The modesty and good sense with which he took part in the society's proceedings, and the unobtrusive but fervid goodness of heart that his fellow-members recognized in him, caused him to be held in high esteem in that body, at whose future gatherings his genial presence will be sadly missed.

Dr. Scott was not a voluminous contributor to medical literature, and his papers, several of which have appeared in our columns, were for the most part of a clinical character. His writings were simple and to the point; he made the most of his art and nothing of himself. Socially, he was a delightful companion; beaming with good nature, but utterly free from levity. His loss will be felt seriously by both the profession and the people of the Pacific coast.

OBITUARY NOTES.

William Perry, M. D., of Exeter, N. H., died on Tuesday, the 11th inst. He was born in Norton, Mass., in 1788, and was the oldest graduate from Harvard University, having been a member of the class of 1811, and was graduated from Harvard Medical School in 1814. He is said to have been a member and the sole survivor of the party that accompanied Fulton on his first steamboat trip down the Hudson in 1807. He was one of the most successful and skillful practitioners of his day in New Hampshire, and had made the subject of insanity a special study.

Edward Dorsch, M. D., of Monroe, Mich., died on Monday, the 10th inst., at the age of sixty-five. He was a graduate of the University of Munich, and was favorably known not only as a physician, but also for his attainments in the natural sciences, polite literature, and art.

Preston M. Chase, M. D., of Danvers, Mass., died on Tuesday, January 4th. He was graduated from the Harvard Medical School in 1857, and at the outbreak of the civil war he was appointed an examining surgeon. He was subsequently appointed a regimental surgeon, in which capacity he served until the close of the war. He was a member of the Massachusetts Medical Society and of the Essex, Mass., South District Medical Society, and had been a member of the Danvers Board of Health.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Special Meeting, December 30, 1886.

The President, Dr. A. Jacobi, in the Chair.

Deformities of the Nasal Septum.—Dr. Francke H. Bosworth read a paper on this subject, with an analysis of over one hundred and fifty cases treated with the saw. This condition was probably the most common cause of catarrhal affections of the upper air-passages. Observations made on skulls were more or less deceptive, the cartilages being entirely absent, and the vomer probably warped in the process of drying. The classification of these deformities was usually based on the direction and extent of the deflected portion, as involving the cartilage alone, or the cartilage and vomer together, and as presenting ridges horizontal or vertical in direction. But in addition to these true deflections there were other cases of deformity which were not deflections in any sense of the word. They consisted of a prominent ridge running along the sutural lines, the most frequent being that in which the ridge extended along the line of junction between the vomer and the palatal process of the superior maxillary bone; the second in frequency were those in which the ridge extended along the line of junction of the cartilage of the septum and vomer, ending abruptly at the junction of the upper border of the septal cartilage and the vertical plate of the ethmoid; in the third class of cases the ridge extended along the whole anterior edge of the vomer, including its union with the cartilage of the septum and the vertical plate of the ethmoid. There was no depression on the opposite side. The ridge, however, sometimes existed on both sides. The ordinary deflections of the septum could easily be attributed to traumatism. It was a growing conviction in his mind that both the deflections and the deformities described were always due primarily to traumatism, in the large majority of cases, slight, perhaps overlooked at the time, but setting up morbid changes which developed symptoms at a later stage. Probably in the majority of cases the injury occurred in childhood, causing an arthritis or even a deformity which at the time gave rise to no observable symptoms, but which in later years, perhaps ten, fifteen, or twenty years later, caused very serious and annoying symptoms.

Dr. Bosworth then briefly described the operations devised for the correction of deflections of the nasal septum by Blandin, Steele, Ingals, and Jarvis, pointing out their imperfections, and then exhibited a saw which he had prepared and used with great success in over one hundred and fifty cases of which he had records. The instrument was made as thin as possible consistent with strength, an eighth of an inch in width, five inches long, with a cutting edge of three inches, thirty teeth to the inch, each tooth an exact equilateral triangle, with no cross-cut or set to the teeth, the handle being three inches long, and attached at an angle of forty-five degrees. With the aid of cocaine the deformities described could be corrected by this saw without causing the slightest pain. Care should be taken not to saw in a curve, but to keep the instrument straight, and make as rapid motions as possible. There were few deformities of the nasal septum which could not be reached by it. It had been objected that suppuration and cicatrization would follow, but in no case had he seen any such result, and delayed healing had occurred in only a few cases in which he had failed to saw in a straight line, on account of bending the saw. The hæmorrhage immediately after the operation was profuse, but it soon ceased, and he merely directed his patient not to expel the clot for three hours. He had plugged the nose in only one or two cases.

He regarded the primary cause of the naso-pharyngeal catarrh in these cases to be deformity of the septum, causing nasal stenosis and hypertrophic changes in the mucous membrane. The deformity interfered with normal nasal respiration; with each inspiration that portion of the nasal mucous membrane which lay immediately behind the point of obstruction became subjected to diminished atmospheric pressure, which acted on the soft, spongy vascular tissues covering the turbinated bones, producing abnormal turgescence. This action, which was very slight the first few years after the injury which had caused the deformity, went on to permanent hyperæmia of the blood-vessels. If the deflection was but slight, this change occurred only on the side of the deformity; but, if it was extreme, all the inspired air passing through the opposite nostril, a chronic hyperæmia developed also on that side. This resulted finally in hypertrophic changes. Then occurred mouth-breathing, which was not a vicious habit, but a necessity produced by nasal stenosis.

It was said that in so-called naso-pharyngeal catarrh there was increased nasal secretion, but he thought this was only apparently true; that there was, in fact, diminished secretion, with difficulty in clearing the nasal passages and vault of the pharynx of the thickened and sticky secretion. As to there being a pharyngitis, he had seldom seen it; it did not occur in connection with disease of the air-passages, for the pharynx belonged to the food tract, and was more likely to show disease in connection with gastritis. The speaker gave credit to Dr. Butlin for having used the jeweler's saw since 1880 for the removal of deformities of the septum causing ear symptoms.

Dr. A. H. Smith differed with the author with regard to diminished nasal secretion in catarrh. He spoke of his observations made about twenty-five years ago, and referred to by the author, regarding the effect of rarefaction of the air behind an obstruction in the air-passages, and thought it might lead to hyperæmia and hypertrophic changes as indicated by Dr. Bosworth. It was difficult to believe that there was no close relation between asthma and gastric disorder, when the attacks of asthma occurred in some instance only after eating oysters, for instance. He once experimented with inhalations of oxygen in asthma, and some patients were relieved, while others were not. He was disposed to think that in the first class of cases the trouble was with the entrance of air to the lungs, and in the second with the passage of blood through constricted blood-vessels. He thought it a question whether septal deformities always resulted from traumatism. It also appeared to him that the pharynx was, properly speaking, a part of the air-passages; the lining membranes were certainly continuous, and in chronic catarrh the membrane between the tonsils was very generally in an abnormal condition. For clinical purposes, the term naso-pharynx could be employed with entire propriety. As to the cure of so-called nasal reflexes by treatment directed to the nose, he knew of some relapses, and he thought more time was required than was usually allowed before pronouncing the patient cured. In some of the worst cases of nasal catarrh he had ever seen, the turbinated bones had been almost entirely swept away, leaving large nostrils. In general, the results in the treatment of bad cases of nasal catarrh were better than in the treatment of light ones. In bad cases some relief almost always followed treatment; but there was a point in the treatment at which the case would be called a light one, and, if after that the treatment was continued, the patient would get worse rather than better.

The President remarked that the size of the passage required to admit a sufficient amount of air to the lungs had been pretty accurately demonstrated by Dr. O'Dwyer's laryngeal tubes. Thus it would seem that large nasal passages were not required to admit a sufficient amount of air, and that something else than a bony obstruction or deviation of the septum was interfering with the admission of a sufficient amount of air, and this condition, a hyperæmia of the mucous membrane, he overcame by milder treatment, as by the use of a very mild solution of nitric acid (1 to 500). The patient should wash out the nose, which could be done in a gentle manner, two or three times a day for six months or a year. Strong solutions of the acids did harm by destroying the membrane.

Dr. Bosworth said that local applications would reduce the hyperæmia temporarily, but the difficulty would again return unless radical treatment by removal of the deformity was resorted to. In answer to Dr. Jacobi's question he said the evidence of sufficiently large nasal passages was ability to sleep at night with the mouth closed. But the patient's testimony on this question usually did not amount to anything. As to diminished secretion in chronic catarrh, in health there was as much as twelve to sixteen ounces secreted, which was vastly more than was ever put into the nastiest handkerchief. It passed into the stomach without the person's knowing it. But when the secretion was changed and of an unhealthy character it did not pass into the fauces, or it lodged there and could with difficulty be removed.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of September 21, 1886.

The President, Dr. John A. McCorkle, in the Chair;
Dr. C. E. De la Vergne, Secretary.

Poisoning by Locust Bark.—A report of thirty-two cases was read by Dr. Z. T. Emery. [To be published hereafter.]

Dr. Sherwell asked if the erythematous eruption which had appeared in these poisoning cases had been persistent or a marked feature. He referred to the fact that Professor J. C. White, of Harvard, had read a paper on "Native Plants Injurious to the Skin," at the last meeting of the American Dermatological Society, in which he had cited a large number of them not generally considered actively toxic in their properties. He felt sure that Dr. White would be greatly interested in this report. The speaker also remembered reading in the "Homœopathic State Medical Journal," some years since, a report of so-called provings of all the parts of the *Robinia pseudacacia*, in which it was credited with all the attributes of the upas-tree, apparently, and its ingestion or smell said to cause anything from sterility to corns. As far as he could learn, the only part of the tree heretofore causing any symptoms had been the inner bark of the root.

Dr. Emery said that, so far as he had been able to ascertain, no one seemed to have heard of its poisonous qualities. There had, however, in his cases been an erythematous blush covering the cheeks of those who had suffered in a mild form, and there were spots on the limbs. These, however, had passed away in a few hours. In his reading he had ascertained that the root and flowers were said to be active. They contained an active principle called robinin. He thought this principle had caused the poisonous symptoms, and that it was contained in the flowers as well as the root.

Dr. Burge recalled the habit that boys had of eating the flowers of the locust. He himself had so indulged in his youth without any bad effects.

A Case of Submucous Laryngitis treated with Hot Water.—Dr. A. H. Buckmaster read a paper with this title. [To be published hereafter.]

Dr. Sherwell said that the method named should be given a trial in such and similar cases, that being so readily and easily done. He thought that its therapeutic action was probably from the effect on contiguous structures and their circulatory supply, and not on account of its entering the larynx, which he thought improbable, if not impossible. In conversations with Dr. A. R. Robinson, of New York, he had been interested in his method and after-treatment in cases of tracheotomy, which operation that gentleman had done many times, and with noteworthy success. The speaker had operated a good many times, but could not offer such favorable statistics.

It appeared that Dr. Robinson—having in all cases secured competent and sufficient professional assistance for care after the operation, which he generally accomplished by retaining two young medical men, or students, one for day, another for night service—placed great stress for a time on the almost constant application of hot water by means of wrung-out sponges in the vicinity and all round the larynx, only being careful not to stop up the lumen of the tube. He had operated frequently, and his percentage of recoveries had been very large. This was the more noteworthy as he did not prefer what was called the early operation. The speaker's results had been fair, but did not compare with Dr. Robinson's, and he thought in future he should be guided by his experience.

Dr. Westbrook had had some experience in the treatment of laryngitis, but none with the use of hot water. He had had experience, however, in the use of hot water in the mouth and facial region. He thought it not an uncommon practice to recommend it as a gargle for pharyngitis. But the instances were rare in which the hot water was brought into actual contact with the laryngeal structures. While, as had been demonstrated by Dr. French, substances used as gargles might penetrate to the larynx, yet the penetration was very slight. Used as a gargle, he thought hot water would become modified in temperature before reaching the larynx. Besides, the constrictor muscles of the isthmus of the fauces seemed to close up the cavity and prevent the hot water from reaching the larynx. While, therefore, he had used hot water, he could not say that he had applied it directly to the larynx. It was not, however, improbable that, with a patient lying on his side with the mouth open, a stream of water might reach the larynx. Yet it might cause a reflex action of the sphincter muscles of the larynx and close the same, so that the patient might not be able to breathe while the water was being applied.

Of course, Dr. Buckmaster's paper had a much wider bearing than merely the treatment of diseases of this region. It had relation to the treatment of obstetrical cases, for instance. He thought it well to try Dr. Buckmaster's method in proper cases before resorting to tracheotomy. He deserved a great deal of credit for having thought of it in the emergency, and for the good results obtained.

Dr. Jones did not think that Dr. Buckmaster could allege priority in the use of hot water for acute laryngitis, but certainly his method was original and successful. The speaker had on several occasions thought of a direct application of hot water to the larynx, but the objection raised by Dr. Westbrook had occurred to him—namely, How could the patient breathe? Professor Delafield, in 1883, had suggested a method of applying hot water by means of sponges—as hot as could be borne.

Dr. Milne Murray's paper on the use of hot water was certainly a very valuable contribution to this subject, and the ingenuity displayed by the investigator was much to his credit. There was one important point which had not been referred to by the reader of the paper, and that was that it was not necessary to apply the hot water directly to the tissue which was to be stimulated. If the stimulus was applied in the immediate neighborhood, the desired effect was obtained. In support of this, Dr. Murray related the following case: Desiring to remove a retained ovum in a case of abortion, he had directed a stream of hot water, under the guidance of the hand, against the posterior vaginal fornix. Almost immediately the uterus had contracted, and the ovum had been expelled into his hand.

Dr. Sullivan had used injections of hot water very successfully in the treatment of dysentery. Whether the good effect was from the hot water used or not, washing out the bowels under the circumstances was, in his opinion, good treatment.

Dr. Sherwell did not suppose that the hot water entered the larynx; it acted, in his opinion, on the tissues by reflex influence.

Dr. Emery related a case of failure in the use of hot water to produce contraction of the uterus. Some six or eight years ago he had had occasion to use it for a case of post-partum hæmorrhage in a patient suffering from quite a good deal of constitutional trouble from syphilis—so much so that the ostium vaginæ was surrounded by large suppurating gummy tumors. In this case hot water had failed to answer the purpose. It had been used thoroughly, and so hot that when it flowed back it was almost impossible to bear it upon the hands. A watery solution of Squibb's extract of ergot had produced the desired effect. He had also used hot water successfully in the treatment of external hæmorrhoids; also for an obstinate case of diarrhœa, given by the stomach, very hot. After a few weeks' use the diarrhœa had ceased and had remained cured.

Dr. Buckmaster said in reply that the failures in the use of hot water might arise from having the water at too high a temperature. Murray had found that a temperature higher than 120° F. often showed marked descents in the relaxation period. There was danger in using water too hot.

In reply to the gentleman who feared that the patient would be in danger of suffocating from the stream of water, he begged to remind him that the flow from the Davidson syringe was intermittent, and due time should be allowed for comfortable respiration.

As to whether it was possible for the water to reach the larynx directly or not, he was not prepared to say. He had noticed some recently published experiments in regard to the functions of the epiglottis where this organ had been removed without inconvenience to deglutition, and it was found that the flow of liquids into the larynx was prevented by the cords.

Dr. Jones thought that Dr. Buckmaster had misunderstood him. He did not profess anything for himself, but Professor Delafield had applied hot water in the treatment of laryngitis.

Dr. Buckmaster replied that Dr. Delafield had applied the hot water externally by means of hot compresses. He thought the application of steam to the larynx would be too dangerous—it would probably burn the tissues—if used to contract the vessels.

Dr. Burge thought that the use of steam in the treatment of laryngitis was subject to the objection that it relaxed the tissues of the whole body. The use of lime in the treatment of croup had the same objection.

Dr. Westbrook had experimented with the atomizer in applying hot water. He had found that the loss of heat was so great that only a sensation of warmth was experienced. If the temperature could be retained, he thought it would be an admirable substitute for hot water. Dr. Buckmaster's method would be difficult to apply in all cases; for instance, in the case of a child it would be dangerous.

Stab Wound of the Diaphragm and Stomach.—Dr. Buckmaster reported a case of this injury. [See page 68.]

Dr. Jones said that the recent triumphs in ovariotomy had prepared the way for a rapid advance in abdominal surgery. We had not yet arrived at a stage where we could command that degree of success in the operations of gastrotomy, enterotomy, and abdominal section for intestinal wounds and obstruction which theoretically should be obtained. While the success of the gynæcologists offered encouragement, as yet, operations for wounds and disease of the hollow viscera had not been so hopeful as could be desired. Dr. W. T. Bull had reported two successful laparotomies for bullet wound of the intestine; there were only a very few others that had been successful. Dr. Hacker had reported that in Billroth's clinic there had been thirty-three operations on the stomach, with twenty deaths; two of these had been gastrorrhaphy for perforating wound, both fatal. All authorities seemed to agree that laparotomy for wounds of the stomach and diaphragm must be done within a very few hours of the receipt of the injury in order to be successful. In the case reported by Dr. Buckmaster, it seemed that it would have been justifiable to open the abdomen widely, thoroughly clean the abdominal and pleural cavities, and unite the wound in the diaphragm, as well as that of the stomach, which would have prevented subsequent hernia and strangulation.

NEW YORK CLINICAL SOCIETY.

Meeting of November 26, 1886.

The Vice-President, Dr. Robert Abbe, in the Chair;

Dr. B. Farquahar Curtis, Secretary.

Two Cases of Cardiac Disease in Children (Sisters).—Dr. L. Emmett Holt read the history of two cases that had been under observation nearly five years, and in which there were rheumatismal nodules in the tendons. [See p. 40.]

The Chairman asked if the nodules had undergone any change, and referred to their similarity to "trigger finger," of which he had recently reported two or three cases. He thought that it was possible to distinguish whether the thickening was in the sheath of the tendon or in the tendon itself, because in the former case it could be felt "bunching up" under the examining finger on motion, while in the latter it would slip under as one mass.

Dr. T. H. Burchard said that he had seen three or four cases in which these nodules were present, and in one case the enlargement had suppurated, which had led him to think that it was analogous to bursitis.

Dr. F. Hartley said that there were numerous causes for trigger finger. In one case lately reported there had been no enlargement, but one of the accessory tendons had caught on a projecting point of bone. He thought that it was impossible, as a rule, to distinguish whether the enlargement was in the tendon or in its sheath.

Dr. W. H. Katzenbach said, in regard to the prognosis of heart disease in children, that in some cases it was worse than in adults, the disease producing death very rapidly.

Dr. Holt replied that he had found children did both better and worse than adults in heart disease, or, in other words, if they did not do very badly in a short time, the prognosis was very good. In reply to the chairman's question, he said that the nodules had altered, some growing larger, others smaller, but apparently without any reference to the treatment employed.

Aneurysm of the Arch of the Aorta.—Dr. Katzenbach presented a patient with this disease, and read the history of his case. [See p. 12.]

Dr. B. Robinson thought that the attack of rheumatism twenty years before, without any symptoms of heart disease, and its development with a subsequent attack, was an instance of the undue weight given to rheumatism as a cause of heart disease. He was convinced that, just as some persons were unusually susceptible in the kidneys or in the lungs, so others were in the heart, and, consequently, an apparently slight cause might produce a great effect upon the heart, whether that cause was rheumatism or something else.

Priapism of Three Years' Duration; Recovery.—Dr. Burchard reported the history of a case. [See p. 66.]

Dr. M. A. Starr said that he knew of no adequate study of priapism in medical literature. He had seen a case, occurring in a boy twenty-one years old (but so backward in mental and physical development as to seem only twelve years old), with lateral curvature of the spine, who had suffered from priapism for seven years, without sexual excitement, and usually without seminal emission. The urinary meatus had been enlarged, the bladder and rectum had been examined, and all drugs and treatment exhausted without effect. Subacute meningo-myelitis (transverse) was evident. There had been no history of masturbation. The speaker had not attempted treatment.

Dr. Holt had seen a case of fracture of the cervical spine in which priapism had been present, and had lasted until death, three days later.

Dr. L. B. Bangs had seen continuous priapism, due to thrombosis, in a man seventy years of age, and lasting for months, but borne stoically. In another case, that of a masturbator, he had seen paroxysmal priapism very resistant to treatment, but finally cured by passing a steel sound during erection. The passage of the sound excited great pain, but when it reached the prostate the priapism disappeared, and did not return.

Dr. Robinson had observed priapism in young boys who did not masturbate, and had found that it was relieved by antilithic treatment, the urine being distinctly of a gouty character.

Dr. D. B. Delavan had seen a case with Dr. Peabody, in which priapism had appeared as a symptom of leucocythæmia.

Dr. Hartley had seen a case of priapism, and had afterward heard that the penis had been amputated and cancer discovered.

Dr. C. B. Kelsey had seen continuous but painless priapism lasting for months in a case of fracture of the cervical spine at St. Luke's Hospital.

The Chairman had been able to find in medical literature very few cases of persistent spasm, but had found several cases with thrombosis relieved by incising the corpora cavernosa. He inquired if leucocythæmia was present in Dr. Burchard's case.

Dr. W. Mendelson asked if the organ was enlarged.

Dr. Burchard said that the penis was not enlarged, and that no leucocythæmia was present, nor could any central nervous lesion be discovered. He had seen with the late Dr. McBride and with Dr. Seguin a case of myelitis in which priapism had been so troublesome that myotomy of the erector penis had been advised, but it had not been carried out. He ascribed the successful issue in his case to putting the patient to bed, taking every precaution against erection, and attacking each erection vigorously and at once.

NEW YORK SURGICAL SOCIETY.

Meeting of December 8, 1886.

The President, Dr. Charles McBurney, in the Chair.

Laparotomy for Pistol-shot Wounds of the Stomach; Perforation of the Small Intestine recognized during Life; Death.—Dr. C. K. Briddon presented the stomach and wounded portion of the intestine of a woman who had been brought to the Presbyterian Hospital at 6.30 P. M., November 20, 1886. The report was furnished by Dr. Frank W. Shaw, house surgeon:

The patient reported that she had accidentally shot herself while holding in her right hand a revolver which she had supposed was unloaded. She had been dressing at the time, and the ball had passed simply through the under-clothing. The shooting had occurred about two hours before her admission.

On admission, the patient was not in collapse. Her pulse was 80, full and regular, and her temperature 101·4° F. Soon after her arrival she vomited a large amount of a dark material, in which were large pieces of undigested meat. This material was examined microscopically, but no blood was found. Percussion over the abdomen gave slight dullness on the left side as compared with the right. The patient was calm, and talked readily about the accident. The abdominal wound was three inches and a half above the umbilicus, and half an inch to the left of the median line. The surface of the abdomen was thoroughly cleaned, the wound dressed antiseptically, and a small ice-bag applied. The patient was placed in bed and given one hypodermic of morphine. It was decided, owing to the absence of any urgent symptoms, to delay any operative measures until the next morning. Her temperature was 102° F.

The general condition of the patient was about the same as on the previous night. Slight tympanites was present, but no marked increase of pain, and the operation was performed by Dr. Briddon on November 21st, at 11·45 A. M. The abdomen and thighs were made antiseptic previous to the administration of the ether. When the patient was under its influence, the abdominal wall was again washed with a solution of bichloride of mercury, and afterward by a saturated solution of iodoform in ether. The sponges were kept in a warm solution of the bichloride, 1 to 5,000. An incision was made from the ensiform cartilage to the umbilicus through at least three inches of fat. When the muscular layer and posterior sheath of the rectus were divided, another thick layer of fat was laid bare, on division of which the peritonæum was exposed, nicked, and divided the whole length of the wound. On pressing the stomach downward, some bloody serum was found, and, in a deeper recess, a fluid, which it was thought had a milky appearance. The cavity was so deep that an attempt was made to obtain a better view by drawing the omentum and transverse colon out and laying them, enveloped in warm, flat sponges, on the lower thoracic wall. This failing to give sufficient room, the opening in the abdominal wall was enlarged downward to a point midway between the umbilicus and the pubes.

The omentum and colon were now returned to the abdominal cavity, and maintained there by flat sponges; the stomach was again examined, and there was found a small rent in the omentum close to its attachment to the curvature. This was enlarged by the fingers sufficiently to admit a thorough inspection of the space behind the stomach, where there were found a few coagula of blood. After a prolonged search and examination of that portion of the greater curvature from which the omentum was detached, there were found two linear slits with ragged edges communicating with the interior of the stomach, one of these being situated anterior, the other posterior to the insertion of the omentum, and not half an inch apart.

At this time the condition of the patient was critical, and the indications were to conclude the operation as quickly as possible. Hypodermics of camphorated ether were used. The perforations were closed by two lines of Lembert's suture.

As there was a little adherent omentum at either end of the second row of sutures, a deeper suture was carried through at that point so as to include this, the toilet of those parts above the transverse colon was carefully made, and some grumous blood, and what was suspected to be stomach contents, were removed. At the suggestion of Dr. Lange, some iodoform gauze was introduced into the space behind the anterior layer of the omentum, and into the space outside of it.

The abdominal walls were brought together by a number of silver-wire relaxation sutures and intermediate ones of catgut. The superficial dressing consisted of iodoform and bichloride gauze.

The operation lasted two hours. The patient's condition was not very promising, and she was immediately placed in bed and surrounded by hot bottles.

The patient recovered from the ether without vomiting. At 8.00 P. M. her temperature was 103·2° F., the pulse rapid but regular.

Hypodermic stimulation of camphorated ether was given every two hours until the pulse became better. Rectal stimulation of brandy and water was given every four hours.

12 Midnight.—Temperature 102° F., pulse 140, respiration 36.

November 22d.—Morphine hypodermically was given frequently enough to prevent restlessness. Temperature ranging between 101° F. and 103° F.

4.30 A. M.—Temperature 101° F., pulse 142, respiration 37.

8.30 A. M.—Temperature 104·2° F., pulse 145, respiration 34.

The stimulation was continued. The urine contained albumin 50·70 and large granular casts.

12 Noon.—Temperature 105° F., pulse 145, respiration 24.

12.30 P. M.—A portion of the iodoform gauze was removed from the abdominal opening.

3.45 P. M.—More gauze was removed, and two rubber tubes were passed to the bottom of the wound. The ice-coil was used on the head and the abdomen.

5.30 P. M.—Temperature 106° F., pulse 142, respiration 28.

8.30 P. M.—Temperature 106° F., pulse 150, respiration 17.

The patient was very restless and delirious.

9 P. M.—Temperature 105·4° F., pulse 150, respiration 15. Pulmonary œdema had begun.

10 P. M.—Pulmonary œdema had increased rapidly during the past hour. The patient was moribund. The œdema was very marked.

11.45 P. M.—The patient died.

Report of Autopsy.—Abdomen prominent, both from the thickness of its walls and from distension of the intestines. The abdominal cavity was opened through the original operative incision. Signs of acute general peritonitis were at once presented. The intestines were adherent, by recent fibrinous exudations, to the walls of the abdomen and to one another; and the great omentum was attached to the greater curvature and anterior wall of the stomach. In the pelvic cavity there were about eight ounces of a red, watery fluid, while in the upper portion of the abdominal cavity there was quite a large quantity of a watery, greenish-brown liquid, thought to be fæcal. The adhesions were easily separated, and the original wound of the stomach, with its catgut sutures, was found. A small portion of the great omentum was found quite firmly attached to the lower part of the closed incision. The stomach wound was in the greater curvature, about two inches from the pylorus. It was entirely closed, resisting the presence of water poured into the stomach. Following the small intestines past the duodenum, four wounds were found in the upper portion of the jejunum, all within three inches. The course of the bullet could be easily traced by several spots of ecchymosis in the tissues. Its direction was downward, backward, and outward. It was found anterior to the left kidney in the left axillary line, and about one inch below the line of the umbilicus. The heart was dilated, and its walls were flabby. The kidneys were slightly enlarged, and showed acute parenchymatous nephritis on gross inspection.

Dr. Briddon stated that during the time the stomach wound was being closed, the indications for a speedy operation were shown; and it was probably to this cause that the wound of the intestine was not recognized.

Dr. H. B. Sands asked if in laparotomy for gunshot wounds, unless the ball was found on the viscera inspected, there was any means of knowing the distance the ball had traversed, or of knowing the number of perforations.

Dr. Briddon said that in future he should regard none of his operations as complete until the whole of the intestinal track had been examined from one end to the other.

The President asked what was the duration of the operation.

Dr. Briddon replied, two hours; that there were at least between three and four inches of fat outside of the abdominal muscles, and a layer of one inch and a half in the fascia behind the upper end of the sheath of the rectus. It would have been utterly impossible to make anything like a satisfactory examination without prolonging the section downward toward the pubes.

The President said that he had never had any opportunity of testing it, but thought the introduction of some bland-colored fluid internally into one wound might develop the existence of apertures in the neighboring portions of the intestines which could not be conveniently handled—as, for instance, the duodenum; but even that, he thought, might not be a positive test, yet it might assist in the examination.

Dr. Briddon said that there was one peculiar condition in the wounds of the stomach, and that was they were perfectly linear; when he first saw them he did not suppose they were wounds at all; they looked like linear extravasations of blood, the wounds of the intestines being, as a rule, round or ragged, sometimes circumscribed. In fact, the wounds of the stomach had been overlooked, and it was not until the edges were separated that they were discovered.

The President asked if that was not owing to the interval between the receipt of the wound and the operative procedures. He thought union could take place in that time, as he had seen firm union in six hours.

Dr. Sands did not think it would occur often in the intestines.

Osteoma or Osteo-sarcoma of both Superior Maxillæ.—Dr. L. A. Stimson presented a bony tumor involving both superior maxillæ which had been removed that day from the girl who had been presented at the previous meeting. The tumor was almost solid bone; at its back was a small soft outgrowth like a cap covering an area of about two square inches. The removal was done rapidly without much hæmorrhage, but the shock was great. The child had rallied under active stimulation, and was alive when he left the hospital, but her condition was precarious. He would report at another meeting the details of the operation and the result.

Tumor of the Thyreoid removed by Socin's Method.—Dr. R. F. Weir showed a tumor recently taken out of the substance of the thyreoid gland after the method advocated by Socin, of Basle. This surgeon, he said, in order to avoid the necessity of extirpation of the thyreoid with its consequent risk of myxœdema, had called attention to the fact that in most cases the new growth of thyreoid tissue or neoplastic elements could be readily separated from the normal gland-tissues. To do this, it was only necessary to cut through the overlying stratum of healthy thyreoid until the capsule of the tumor was reached, when enucleation could be easily accomplished. The divided gland-tissue might give rise to considerable venous oozing, but this was easily controlled. Socin's experience embraced now over fifty cases without any cachexia following.

In the case presented by Dr. Weir, the tumor was found in the person of a dwarf of twenty-one, who was defective mentally and had an appearance suggestive of commencing myxœdema, and in whose neck on the left side was an enlarged, irregular thyreoid gland which had existed since infancy. On the right side there was no general enlargement of the gland to be seen or felt, but nearly on a level with the larynx was a roundish, movable tumor of the size of a hen's egg, which had appeared within the last eighteen months, and which had caused considerable pain on that side of the head; it had also been increasing in size and moved with the trachea in swallowing. It was explained to the mother, who was anxious to have all the growth removed, perhaps from a commercial reason, that this ought not to be attempted, and that only the swelling, then increasing in dimensions, would be interfered with. An incision was made vertically over it, the thyreoid gland reached, and its substance, of a deep-red color, cut through to the depth of more than a quarter of an inch, until the tumor was exposed freely, when, with the end of the scalpel and the finger-nail, the enucleation of an hour-glass shaped growth, two inches long and three fourths of an inch wide, was promptly accomplished. The venous oozing from the substance of the thyreoid gland was easily checked by clamps and ligatures, and the cut gland edges stitched together, except at the lower edge, where a drainage-tube was inserted, and then the skin cut was sutured in a similar manner; primary union occurred.

The following was the report of the pathologist, Dr. Peabody:

The main tumor is spheroidal in shape and in great part surrounded by a delicate fibrous capsule. It is about three fourths of an inch in diameter. Connected with it is a smaller one of the same color, consistency, and general character. It is very friable, not easily cut for microscopic examination. Sections show it to be divided into lobes which present the appearance of a compound racemose gland, with tubes and ducts lined by cylindrical epithelium; the general epithelium of the gland is shapeless.

Diagnosis: Adenoma.

Sarcomatous Floating Tumor of the Knee Joint.—Dr. Weir presented a sarcomatous pedunculated tumor which he had removed October 23, 1886, from the left knee joint of an Italian, aged forty-two years, who had had disability in that articulation for several months. At first beginning as an ordinary synovitis, to this were supplemented soon sundry painful catchings of the joint, with aggravation each time of the difficulty in walking. On the inner aspect of the knee could be felt a movable and rather hard body of the size of the end of the forefinger, whose excrescences were limited to that side of the joint to an area corresponding nearly to the upper limit of the patella. On making an incision under the carbolic spray down to the mass, previously fixed with a tenaculum, it was found to be, instead of cartilage, a reddish-yellow tumor, about an inch long, attached by a slender pedicle, which, after being tied with catgut, was severed and the growth removed. The wound was not sutured, but dressed antiseptically, and the limb secured in a posterior splint; no reaction followed, and at the end of ten days the dressings were taken away and the patient allowed to move his limb cautiously about the bed; a week later he began to walk. On November 22d, when the patient was fit to be discharged from the hospital, without any intimation, he leaped from the window of the ward and fell a distance of four stories and killed himself. Among his other injuries a compound fracture of the left tibia had occurred; the tissues of the joint were carefully examined microscopically to see if any changes similar to those observed in the tumor removed by the operator existed, but none were found. The reason for this was that the movable body was reported by the pathologist to be a fibro-sarcoma; his statement in detail was as follows:

"*Pathologist's Report.*—The tumor presented for examination is flattened, caudate, and measures 2 x 1 x ½ centimetres. It has been incised over its whole length; it weighs one gramme. Microscopic examination reveals it to consist of fibrous stroma with varying amounts of small spindle cells; in some places these lie close together, in others they are few and scattered. It also contains numerous arteries with normal walls, and there is a great deal of blood pigment scattered generally through the tissues."

As this was apparently the first case in which a post-mortem examination had been held, it was interesting as confirming the statement made in a recent article published by Dr. Weir on this subject, that clinically it was sufficient to remove the offending mass. His first case, operated on in 1884, was still free from recurrence, and lent additional support to this view.

Laparotomy for Suppurative Peritonitis from Acute Perforation of the Appendix Vermiformis.—Dr. Weir exhibited the cæcum and stump of an appendix vermiformis firmly closed by several silk sutures, which had been obtained from the post-mortem of a laparotomy case operated on by him December 6th, and the details of which, taken from the hospital note-book, were as follows:

Edward Vincent, aged twenty-two, single, Canada. Was admitted to the New York Hospital, medical division—Dr. Vought, house surgeon—December 6, 1886, with the history that he had been well until seven days ago, when, on account of headache, he had taken two cathartic pills without relief. At this time he had been exposed a great deal to cold and wet. He had kept on taking cathartic pills, and following this had had an attack of diarrhœa. Four days ago he had begun to have pain in the abdomen, which had grown more severe, especially in the right iliac region; he had also had some cough and vomited eight or ten times during the past week. On the previous night he had had a severe chill, and in the morning more severe and general pain in the abdomen.

Examination.—Abdomen swollen and very tender on slight pressure. Breathing entirely thoracic. Patient maintained dorsal decubitus. Knees not constantly drawn up. In right iliac region there was a feeling of resistance, and over this a slight dullness. Over the rest of the abdomen the resonance was tympanitic, the abdominal muscles were rigid, splenic area large. A needle inserted in the right iliac fossa the depth of one inch and a half drew thin sero-purulent fluid. Posteriorly and on the left side low down inspiration was rough and a few rough râles were heard over the chest. Temperature 102·8°, pulse 135, respiration 32 at 4 P. M.

He was transferred to the surgical division—Dr. Hughes, house surgeon—at 9 P. M. Operation by Dr. Weir. On examination after etherization, no marked dullness or swelling was found in the iliac fossa, but an aspirating needle inserted near previous puncture in right iliac region withdrew pus. With the needle *in situ* for a guide, an incision two inches and a half long was made just above Poupart's ligament upward and outward and extending beyond the superior spinous process. On opening into the abscess cavity, considerable watery pus flowed out. By digital examination it at first appeared as if the abscess had been limited on its inner side by the adherent coils of intestine, which could be plainly felt. The unusual amount of discharge, however, led to a more free examination, and it was soon recognized that the general cavity of the peritonæum was involved in a suppurative peritonitis.

A median laparotomy was then decided on; an incision about six inches long was made in the median line, afterward enlarged so as to extend from the symphysis to three inches above the umbilicus; the parts were found very much congested; there was a large exudation of pus, with free, soft adhesions. The intestines were partially taken out and laid in hot towels, and the right side of the pelvis was carefully examined. A perforating ulcer was found at the root of the vermiform appendix on its free surface posteriorly throughout its whole length. In order to occlude this satisfactorily, the entire appendix was tied off with catgut and the stump ligated and covered in by peritonæum by several Lembert's sutures made with fine black silk. The abdominal cavity was thoroughly douched with warm water and the intestines replaced, and a duplicature of iodoform gauze was inserted in the midst of the intestines in the iliac fossa and in the pelvis—Miculicz's method. A large rubber drainage-tube was also introduced into the iliac fossa through the first wound, and another into the pelvis through the lower end of the median incision. The median incision was then sewn together with strong silk; bichloride compresses and cotton dressings were applied and secured by a binder. No intestinal concretion was detected in the appendix or in the peritoneal cavity.

The patient's condition grew rapidly worse during the operation; fl. ex. digitalis, ♏ iv, and whisky, ℥ ij, were administered hypodermatically and *per rectum*. Ergotine, gr. $\frac{1}{48}$, with firm bandage of the extremities. At the termination of the final dressing his condition was encouraging, color good, pulse 185 and moderately strong at the wrist. Immediately after the operation he was given a hot-air bath and hot-water bottles were placed around him.

12 Midnight.—Temperature 101·2°, pulse 180, respiration 34. An enema of milk, ℥ ij, whisky, ℥ j, ordered. Tr. strophanthus, ♏iij, brandy, ℥ j, every three hours by mouth, and whisky by mouth and by rectum.

December 7th, 3 A. M.—Administered hypodermic of Magendie, ♏iv, at 11 P. M., to quiet restlessness; this was repeated at 1.50 A. M.

3 A. M.—Temperature 102·8°, pulse 180, respiration 24.

3.30 A. M.—He died.

The post-mortem showed that the peritonæum was intensely congested and covered with recent lymph; there was about one drachm of pus in the pelvis; the spleen was a trifle enlarged; the omentum was rolled up toward the transverse colon; the mesenteric glands were large. The stomach was normal; the common bile-duct was pervious, the mucous surface of the duodenum was normal. Some of Peyer's patches were pigmented; the mucous surface of the small intestines was otherwise normal.

The vermiform appendix had been removed and its attachment to the cæcum apparently closed by a ligature. The surgically removed vermiform appendix was markedly thickened by a swelling of all its coats; its interior was lined by a thick, ragged false membrane, and there was a perforation near its attached end. The right lung on its anterior aspect showed evidence of recent pleuro-pneumonia.

Dr. Weir remarked that there were two points connected with the case of particular interest. One was the difficulty of determining without exploratory iliac incision, and sometimes even after this was done, whether or not the typhlitic abscess was yet a local affair; peritoneal symptoms were not infrequently seen with perityphlitic inflammations, especially with that variety that resulted in limited peritoneal abscess. It was possible to get pus by an exploratory needle from a collection not recognizable to palpation, and it was possible, and nearly was accomplished in this case, to open into the general peritoneal cavity and yet be deceived into thinking it a localized abscess. The absence of tumor and the profuseness of thin sero-pus led to a renewed and thorough examination which had until then been refrained from, lest limiting protective adhesions should be broken down.

The second point was the treatment of the perforated appendix. Should the sloughy opening be trimmed off and inverted and closed, as in an intestinal perforation, and the appendix preserved, or should it be boldly removed, as in this case? The closeness of the perforation to the cæcum interfered with his desire to cut away the sloughy edge left even after the excision of the appendix, but, where practicable, this he thought should be done before the Lembert sutures were applied. He, however, knew that simple ligation had frequently sufficed where the appendix had been removed in this and other difficulties, and he favored the usual extirpation of the appendix as not adding to the risk, and as preventing future trouble.

Dr. Sands said that he believed in the vast majority of cases of what was termed peritonitis which terminated in abscesses, the disease arose externally to the peritoneal cavity; he had operated for perityphlitis a great many times, but had never yet found a circumscribed abscess bounded simply by coils of adherent intestine; he was aware that such was a common view, but he believed it to be inaccurate. He had also observed that when perforation of the appendix occurred into the serous cavity, the result was invariably fatal. A short time ago a case came under the speaker's observation in which the symptoms of circumscribed tumor were wanting, but in which there were present marked pain and tenderness in the cæcal region. In that case, upon incision through the abdominal wall over the seat of tenderness, a small amount of pus had escaped, and, on putting the finger into the opening, the feeling of intestine was imparted. The patient died a few hours after the operation, and no examination was made post mortem.

Dr. Briddon said that he had made autopsies in three cases where death had occurred in from twenty-four to thirty-six hours, from perforation of the appendix; there had been no limiting adhesions, but general diffuse peritonitis; no formation of an abscess at all, as he did not think there had been time.

Dr. Sands said, in reply to Dr. Weir's remarks, that he had carefully explored many cases of perityphlitic abscess, but had never found a boundary-wall of intestine; he had felt the colon and the cæcum at the bottom of the wound, but had only been able to recognize bare intestinal coils. In one instance he was called in consultation to see a gentleman, who was said to have had symptoms of perityphlitis. But at the time of his visit the tumor in the cæcal region had subsided, and the patient was almost comatose. The cause of the coma proved to be meningitis, and at a post-mortem the subsidence of the tumor was found to have been due to the pus having traveled within the sheath of the psoas muscle, the intestinal walls forming no part of the boundary of the abscess. As regards Mr. Treve's investigations, he would not dispute their accuracy; but he could not advise very early operative procedures, as he had seen so many of these cases terminate favorably without incision. A few tumors had ruptured spontaneously, but the majority had subsided without evidence of rupture. The speaker believed that very few cases would be injured by being allowed to remain for a week or ten days, according to the local symptoms. He, however, considered that to operate always within two or three days from the onset of the disease would be much like performing laparotomy for every case of pain in the abdomen.

The President asked Dr. Sands if he did not think the use of the exploring-needle of advantage in these cases of perityphlitis before the end of a week or ten days, in order to enable the surgeon to decide as to the date of operation.

Dr. Sands replied that, so far as his experience went, he had always found it safe to wait. He deprecated early operations, first, because they might be unnecessary, and, secondly, because they might be unsafe. Regarding the first point, he had seen a large number of cases in which the inflammatory swelling had subsided without any surgical operation, and the patients had got well. The danger of spontaneous opening of the abscess at an early period into the peritonæum he believed to be exaggerated, and to be unsupported by clinical facts. The speaker could recall but a single instance in which such a rupture had occurred as early as the seventh day of the disease. Concerning the second point—namely, the risk attending early operations—he believed it to depend on the liability of the entrance of the fœtid contents of the abscess into the peritoneal sac. He thought, perhaps, he had not made himself clearly understood when he had contended that circumscribed perityphlitic abscesses were usually external to the peritonæum. The speaker did not mean to deny the anatomical relations of the cæcum, which, he thought, were generally understood; but he failed to see why the almost complete investment of the cæcum by the peritonæum, or the presence of a mesentery attached to the appendix vermiformis, should determine the entrance of fæcal matter escaping from a perforated appendix into the peritoneal cavity. His supposition was that, in cases of circumscribed abscess due to such perforation, this was preceded by adhesion of the serous membrane covering the appendix to that lining the iliac fossa, and that thereby the latter was lifted by the pus and fæcal matter, and the invasion of the peritoneal sac prevented. But adhesions would not usually be limited to the perforated appendix; they would often involve the peritonæum covering the cæcum, the abscess, and the back of the anterior abdominal wall; such adhesions, however, would be absent at an early period, and hence one danger connected with early incision. He remembered several cases in which the presence of pus had been demonstrated by the use of the aspirating-needle, and in which an incision, made carefully along the latter held *in situ*, opened the peritoneal sac, adhesions not yet having taken place. After closing the opening made in the serous sac, adhesions ultimately occurred, and the abscess vacated its contents externally with safety and without further surgical operation. The speaker remarked it was fair to presume that the simultaneous opening of the peritoneal sac and the cavity of the abscess might have been followed by a fatal result. Dr. Sands would not dispute the desirability of an early evacuation of the contents of a perityphlitic abscess, but he thought that the danger attending such an operation should be duly weighed.

Another reason for delay was that, even when the peritonæum covering the abscess did not become adherent to that lining the back of the anterior abdominal wall, the line of reflection might be pushed upward by the growing swelling, so as to be above that generally selected for incision.

Dr. Briddon said that a patient, in the service of Dr. Andrew Smith, had been referred to him, in whom there had been a swelling, the most prominent portion of which had appeared to be about three inches above Poupart's ligament, with a zone of less resistance immediately above the ligament. An aspirating needle had been introduced one inch above the ligament, and gave exit to pus; it had been left in position and the usual incision had been made. When the transversalis fascia had been reached, it had been found that the peritonæum had not been pushed up by the abscess, and that the needle had consequently passed through two of its layers. It had been displaced upward by the fingers until the cavity of the abscess had been opened without further implication of the peritonæum than that caused by the needle. The patient had made a prompt recovery.

The President asked if, given a case where there was no appreciable tumor, symptoms should lead to the use of the needle and pus be detected, would there be greater danger of opening the peritonæum at that time than in operating for ligation of the external iliac artery, the incision being made close to Poupart's ligament.

Dr. Sands thought it would be possible, but considered that it might be more difficult in consequence of morbid alterations due to inflammation.

Dr. Briddon said that he had regretted operating early in one case which had been under the care of the late Dr. William C. Hunter; the swelling had been situated deep in the iliac fossa and aspirations had given exit to pus. The needle had been left *in situ*, and, after division of the muscular and aponeurotic coverings by the scalpel, further separation had been made by the fingers until a cavity had been reached at a very considerable depth from the surface. It had only contained a small amount of pus; it had been drained and dressed in the usual manner, and everything had gone well for forty-eight hours, when he had developed an acute and rapidly fatal peritonitis.

Dr. Weir was unwilling to let the remarks of Dr. Sands pass unchallenged. He would recall three instances that had occurred tolerably recently in which, after the abscess had been opened, he could feel with his finger, toward the median line, several coils of small intestine, which, glued together, made up the inner wall of the abscess. Moreover, the extensive research of Treve utterly disproved the old idea of the cæcum and appendix being continuous posteriorly or otherwise with the subperitoneal areolar space. In fact, in a hundred dissections made by this English observer, he had never yet seen the posterior surface of the cæcum uncovered by peritonæum, nor had he encountered a meso-colon. The reality was, that in the great majority of cases the entire beginning of the large intestine was completely surrounded by peritonæum, up and on to the ascending colon. Moreover, the mesentery of the appendix was derived from the ileum in nearly every instance. Hence, perforating appendicitis, and the still more rare cecitis, must primarily produce a peritoneal suppuration, limited or diffused, or else, by the lucky occurrence of adhesions before the accomplishment of the perforation, give rise thus to a subperitoneal abscess, the so-called para-typhlitis. Both varieties undoubtedly existed, but if it was admitted that the first form occurred, it was right that an evacuation of the matter should be had as soon as its presence was recognized. This could often be arrived at early by the use of an aspirating needle, or the question of time would generally decide surgical interference. This, in a consideration of over two hundred and fifty cases, had been placed by Fitz at not later than the third day, and the dictum he should agree with certainly in those cases where the symptoms were marked and existed with persistent temperature elevation. He believed that many of the cases that got well either evacuated themselves by the bowel or bladder, or underwent absorption, which was not often, or were, what was more likely, cecitis from fæcal impaction and not of a suppurative character, and there he had seen and learned to suspect a ready subsidence of temperature heat after the administration of anodynes. Fitz, who had been just cited, was firmly of the view of the intra-peritoneal origin and seat of these abscesses. Bartholow, writing on the same subject, had taken a similar view. Individually, the speaker had never yet regretted operating too early in cases of right iliac inflammatory tumors. His impression of the site of such abscesses had been formed for many years, he having been led to the investigation by once witnessing the occurrence of a rupture of a perityphlitic abscess into the general peritoneal cavity under very slight palpation of the tumor with a rapidly fatal issue without surgical interference, as the accident took place before the general use of laparotomy. Dr. Weir concluded by reiterating the fact that if a laparotomy was necessitated for an advanced general suppurative peritonitis, or even in the rarer cases of acute perforation of the appendix, by lifting out the intestine filling the right iliac fossa, the entire field of exploration was fully brought into view, and that lesions difficult to detect at a post-mortem examination could be recognized in the living subject quite readily by changes in color and consistence, which were lost in cadaveric alterations.

The Treatment of Inveterate Talipes Equino-varus by Osteotomy.—A paper with this title was read by Dr. Charles T. Poore. [See page 57.]

Dr. Stimson asked if in the latter case it were possible to raise the foot in dorsal flexion inside of a right angle.

Dr. Poore replied that he thought there was limited motion in the ankle joint.

Dr. Stimson remarked that the basis of Boeckel's operation was removal of the astragalus, because that motion was interfered with, and a limp was the necessary consequence.

Dr. Poore said that he did not see how that could be, as he was certain that some of his cases in which cuneiform osteotomy had been performed had normal motion at that joint.

Dr. Stimson quoted another objection to cuneiform osteotomy—viz., that it interfered with the growth of the foot. Cases had been reported in which good results had been secured at first, but as the child grew the foot failed to grow in proportion.

Dr. Poore replied that he thought it was probably the case, because the operation had been performed anterior to Chopart's joint, and thus an inch and a half had been removed from the foot. He said of course it could not be known how much shorter the foot would be on reaching maturity, but he considered it better than the cuneiform operation in front of Chopart's joint.

The President asked Dr. Stimson if he considered the growth of the foot as a serious objection except as to its appearance.

Dr. Poore stated that the removal of the astragalus had been followed by ankylosis, and also the use of a brace afterward.

Dr. Stimson replied that he spoke from memory of the literature of Boeckel, of Strassburg, in his paper which was read before the Paris Society, in which good results were reported, asking Dr. Poore if it were not so.

Dr. Poore replied that it was not; all of those cases were reported by Shakespeare, and all of them had joints more or less stiff.

Dr. Stimson stated that he could hardly believe he had been so mistaken while perusing the article mentioned.

Dr. Poore said that he could not see why removal of the astragalus should be followed otherwise than by a stiff joint.

Book Notices.

A System of Practical Medicine. By American Authors. Edited by William Pepper, M. D., LL. D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, assisted by Louis Starr, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Volume IV. Diseases of the Genito-urinary and Cutaneous Systems, Medical Ophthalmology and Otology. Philadelphia: Lea Brothers & Co., 1886. Pp. 19–877.

This volume presents a series of articles which will commend it as warmly and to as large a circle of readers as any of its predecessors in this excellent series. Of its 877 pages, 382 are devoted to affections of the pelvic organs in women, while the remainder treat of diseases of the kidneys, urine, and male bladder, those of the muscular system and the skin, and medical ophthalmology and otology. These last two articles are somewhat novel in scope and treatment, inasmuch as, especially in that on ophthalmology, by Dr. William F. Norris, the time-honored subdivision according to anatomical structure is not followed, but the diseases of the eye are discussed as they are related to other general diseases or those of special organs. Thus, *e. g.*, one looks in vain for a section on iritis or glaucoma, but can readily find what serious disturbances of vision may be due to overdoses of quinine, or what may be looked for in epilepsy, in disordered menstruation, or in pernicious anæmia. This plan has doubtless been adopted as in consonance with the general scheme of the work, which is pre-eminently designed to meet the needs of the general medical practitioner. His requirements are also kept in view when such an article is introduced as that on abortion, by Professor Engelmann. This gentleman most urgently insists upon the duty of the family physician alike to discourage the procuring of abortion, and to inculcate a more healthy moral tone regarding this practice, as also to recognize its earliest symptoms, and, when it actually occurs, to see that both during its progress and afterward the patient is managed with a due sense of its importance at the time and in its remote consequences. This essay would be well worthy of a place in a special treatise, for in thoroughness and elaboration the subject as presented here far surpasses the chapters devoted to it in any work on obstetrics with which we are familiar. Needless to say, the author advocates active treatment, and is in no sense an apostle of expectancy, for he recognizes all the evils that spring from timidity and neglect. It is unfortunate that these excellent teachings should be marred by faults of style leading to obscurity, and by verbal inaccuracies, of which the following are examples: On page 476 the word *ostea* is repeatedly used for *ostia*, and in one place *tuber ostea*, meaning, apparently, the uterine orifices of the Fallopian tubes. On page 477 the Latin equivalent of smooth chorion is given as chorion *levæ*. On page 479 *papular* appears in the place of *pupillary*, and on page 510 *endogenous* for *indigenous*. We need do no more than refer to the articles on diseases of the parenchyma of the kidneys and perinephritis, by Professor Francis Delafield, and on pelvic hæmatocele, by Professor T. Gaillard Thomas, characterized the one by painstaking and unadorned accuracy of statement based upon thorough study and personal pathological investigations, the other by brilliant though practical generalizations drawn from the most extensive experience gained under exceptionally favorable conditions.

We would next call attention to the article by Dr. James C. Wilson on myalgia, one of the minor ailments we are frequently called upon to treat, and the pathology of which has been most variously estimated by different authors of repute. After giving an interesting summary of the views of those who severally regard the affection as a rheumatism, a neuralgia, and an inflammation, Dr. Wilson concludes that, while its essential pathology is obscure, "there is ground for the opinion that the lesions are of the nature of a subinflammatory process within the muscle." Other articles worthy of special attention, did space permit, are that of Dr. Edward L. Keyes, on diseases of the male bladder, which is condensed, but eminently satisfactory; that of Professor B. F. Baer on inflammation of the pelvic cellular tissue and pelvic peritonæum, a subject to which recent discussions have added fresh interest; and that by Dr. W. W. Jaggard, on disorders of pregnancy, notably well arranged and scholarly.

The Principles and Practice of Medicine. By the late Charles Hilton Fagge, M. D., F. R. C. P., Physician to, and Lecturer on Pathology at, Guy's Hospital, etc. Including a Section on Cutaneous Diseases, by P. H. Pye-Smith, M. D., F. R. C. S., Lecturer on Medicine at Guy's Hospital; Chapters on Cardiac Diseases, by Samuel Wilkes, M. D., F. R. S., Physician to Guy's Hospital, etc.; and Complete Indexes, by Robert Edmund Carrington, M. D., Assistant Physician to Guy's Hospital, London. Vol. I. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. 1040.

As one sees the announcement of a new work on the practice of medicine he questions whether we may not have an embarrassment of riches in the large number of new ones and new editions of those already well known. Those who have read Guy's Hospital Reports for the past twenty years, the articles in Reynolds's "System of Medicine," and the many articles in the different English journals from the pen of Charles Hilton Fagge, will expect a comprehensive, carefully prepared, and painstaking volume. They will not be disappointed. One can not proceed far in his reading of this book before he is impressed with certain features of it which are very remarkable. Let him turn to almost any page at random, and he is likely to find reference made to half a dozen authors, the authors being perhaps of three or four different nationalities. The author is said to have been very familiar with German, French, and Italian, which, with his own English, would give him four different languages from which to cull his information. His memory must have been marvelous, and he was an original worker and thinker. The last twelve years of his life were devoted to the preparation of this work, as we learn from a short memoir of him, and it will give a fair idea of the scope of the work when we mention the fact that Koch and his methods are quite fully discussed. As one reads the introductory chapter he can get a good idea of the style of the author, which is such as to make his work classical and fit to stand by the side of that most delightful of books (so far as style is concerned), Watson's "Practice of Physic."

Inflammation, that prolific subject for medical and surgical text-book writers, is very fully and clearly discussed, and in such charming style as to make it very interesting.

Tubercle receives much consideration. Laennec's views are contrasted with those of von Niemeyer, to the decided disadvantage of the latter. The author says: "My own view is, and always has been, entirely in accord with that of the older writer." The various phases of the tubercle discussion receive attention, Laennec, Louis, Bayle, Virchow, Cohnheim, Rindfleisch, Koch, and many others getting their share of notice.

Syphilis has a chapter. It seems odd to an American physician to see syphilis discussed in a general treatise on the practice of medicine.

The author next discusses, under the head of Specific Diseases, the various forms of continued and eruptive fevers, diphtheria, and cholera. Then follow very exhaustive chapters on Diseases of the Nervous System and the Neuroses. Diseases of the Respiratory System, starting with those of the larynx, are very fully treated of. The author has adopted a very simple and yet practical plan in his discussion of diseases of the lungs. He begins by considering the symptoms common to various chest affections, dyspnœa, cough, and pain, with their special significance afterward. When he comes to the subject of percussion, we can not agree with him in his idea of pitch. He says the tympanitic percussion-sound is the lowest-pitched tone. It seems to us that the normal pulmonary percussion-note, as found in the left infra-clavicular and infra-scapular regions, is the lowest-pitched.

Another statement seems incomplete, that "dullness on percussion may mean either of two things: 1. Consolidation of the pulmonary tissue. 2. Compression of it by fluid or some adjacent organ enlarged." No mention whatever is made of that dullness which is frequently found in pleurisy with plastic exudation.

We are quite surprised to find no mention made of Cammann's binaural stethoscope, although many other stethoscopes are referred to. The use of the term "whispering bronchophony" is referred to as having been first used by Dr. Gee. The credit of first using this term and others in connection with the whispered sounds is usually given to the late Professor Austin Flint. Dr. Fagge believes that a person who has had pneumonia is more likely to be attacked by it again than if he had not already had it. He still leaves the question *sub judice* as to whether pneumonia is an acute specific disease. He believes in early thoracocentesis if there are evidences that the pleural sac is nearly full. Phthisis receives full consideration. Much stress is laid on the tubercle bacillus as a means of diagnosticating phthisis by an examination of the sputum. The author does not accept the view so strongly advocated by von Niemeyer that phthisis can develop from retention of blood in the air-passages after an attack of hæmoptysis. If it does develop then, the phthisis, he says, antedated the hæmoptysis. This was the view held so firmly by Flint.

The volume closes with a very complete chapter on Asthma, Influenza, and Whooping-cough. We close this volume with the feeling that here was a master. If the second volume is as good as this, we do not hesitate to say that the whole work will take and hold the very front rank among works on the practice of medicine.

Les bactéries et leur rôle dans l'anatomie et l'histologie pathologiques des maladies infectieuses. Par A.-V. Cornil, Professeur d'anatomie pathologique à la Faculté de médecine de Paris, et V. Babes, Professeur extraordinaire d'histologie pathologique à l'université de Budapest. Deuxième édition revue et augmentée, contenant les méthodes spéciales de la bactériologie. 348 figures en noir et en couleurs dans le texte, et 4 planches hors texte. Paris: Félix Alcan, 1886. Pp. 839. [Prix, 30 francs.]

Less than a year elapsed between the appearance of the first and second editions of this work—too short a time to permit of a very thorough revision—and the most important changes in the book consist in the correction of some of the errors, which were numerous in the first edition, and the addition of a chapter upon Pasteur's method for the prevention of rabies, and several short chapters upon subjects of less importance.

The authors have undertaken in this work a difficult task, namely, that of presenting in systematic form the present state of our knowledge in regard to the pathogenetic micro-organisms. The satisfactory accomplishment of this task is rendered more difficult by the fact that the whole subject of the relation of micro-organisms to disease is a comparatively new one; it is great in extent, very many of the questions connected with it are far from being definitely settled, and the literature, although recent, is very widely scattered and is very extensive. Both of the authors are well known to all workers in bacteriology from their previous publications on this subject, and M. Cornil had also previously attained a high position among the pathologists of the French school. The work consists of an introduction and a first and second part. The first part, formed of ten chapters, treats of the general characteristics of the schizomycetes the ptomaines, histological technique, methods of culture, description and classification of the schizomycetes, experimentation upon animals, vital competition of bacteria, attenuation of virus, lesions of tissues caused by pathogenetic bacteria, and experimental diseases. The second part is given up to a detailed consideration of the organisms of the infectious diseases. The work is the product of much time and labor, the literature of the subject has been rather carefully reviewed, and many references to it are appended. The work as a whole, however, lacks individuality and has rather the character of a compilation than that of an independent treatise. This compilation, too, seems to have been done somewhat hastily, and not always with the best judgment. There are numerous errors and inaccurate statements scattered through the work, and not a few of the references to the literature of the subject are incorrect. These inaccuracies, however, are much less noticeable in the second edition than in the first, though there are still many remaining.

The cuts are very numerous, and many of them are in color. There are not so many subjects figured in these cuts as would at first appear, as a very large proportion of them have been introduced twice to illustrate different parts of the text, and a few have been introduced as many as four or five times. Some of the cuts are excellent, but many are poor and add nothing to the value of the book. The colored plates represent very well what they were designed to show.

The work is valuable in that it presents in compact form the larger part of our present knowledge of the pathogenetic micro-organisms and their relation to the infectious diseases.

Transactions of the American Surgical Association. Volume the Fourth. Edited by J. Ewing Mears, M. D., Recorder of the Association. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. xxiii–339.

The American Surgical Association has become so well established that one looks forward to the yearly publication of its transactions with the expectation of pleasure and profit from its perusal. The present volume forms no exception to the statement, and, as a rule, the papers are fully equal in excellence to those presented at former meetings. We note, however, that the number of members presenting papers has been steadily diminishing since the first meeting; whether this means a flagging of interest or is only accidental, time alone must determine.

The volume contains the following papers: "The Union of Nerves of Different Functions Considered in its Pathological and Surgical Relations," by Moses Gunn, M. D.; "Diagnostic Laparotomy," by Christopher Johnston, M. D.; "A Consideration of the Bacteria of Surgical Disease," by Harold C. Ernst, M. D.; "The Surgery of the Pancreas," by N. Senn, M. D.; "Traumatic Aneurysm of Internal Carotid Artery following Gunshot Injury," by T. F. Prewitt, M. D.; "Successful Nephrectomy on a Patient of Twenty-three Months," by Roswell Park, M. D.; "Lipoma Testis," by Roswell Park, M. D.; "Stretching of the Facial Nerve," by William W. Keen, M. D.; "Two Cases of Cholecystotomy," by Charles T. Parkes, M. D.; "Subcutaneous Division of Urethral Stricture," by C. H. Mastin, M. D.; and "An Improved Tracheotomy Tube," by Roswell Park, M. D. These papers, together with the discussion following their reading, form a valuable contribution to surgical literature. Dr. Senn's paper on "The Surgery of the Pancreas" occupies about one third of the volume, and, although showing great research in looking up cases and in experimental inquiry, yet is not based on any practical experience in the diseases and injuries of this organ. It is more the paper of a student and physiologist than that of a practical surgeon.

All the contributions are of such a high order that to mention the others in detail would be useless. The members of the association may well be proud of their labors.

The Adirondacks as a Health Resort, showing the Benefit to be derived by a Sojourn in the Wilderness, in Cases of Pulmonary Phthisis, Acute and Chronic Bronchitis, Asthma, "Hay Fever," and Various Nervous Affections. Edited and Compiled by J. W. Stickler, M. S., M. D., etc. New York: G. P. Putnam's Sons, 1886. Pp. x–198. [Price, $1.00.]

Dr. Stickler's little work is essentially a compend from other publications. The data as to the natural features of the Adirondacks are first given; the topography, altitude, temperature, avenues of approach, resorts for invalids, accommodation for guests, and methods of camp-life are fully detailed with acknowledgment to guide-books and authorities quoted. The Adirondack region has an altitude ranging from eighteen hundred to two thousand feet. Its great salubrity results from the purity of the air, its dryness, and its uniformity. The density of the primitive forests contributes to these conditions, as does also the porosity of the soil. The speedy transition from winter to spring is a feature conducive to healthful residence there throughout the year. Dr. Levick's well-known monograph on the curative value of this region is reproduced in full. Next are presented the "twenty cases" of Adirondack treatment as originally published by Dr. Loomis. These are of special interest, as they include the cures and personal experience, during a succession of years, of both Professor Loomis and Dr. Trudeau, the well-known Adirondack physician. The succeeding chapter of letters from prominent divines and men of note presents various experiences and impressions of the life in the woods and its benefits. These letters will help to reassure the invalid who contemplates a first sojourn there, but they have no scientific value. The sanitarium is fully described, with all it proposes to do for the poorer class of consumptives. The book is a valuable one, from which physicians can obtain definite information in referring their patients to the Adirondacks, and as a popular presentation of the rationale of mountain and forest life, guiding the patient in his methods as well as in his anticipations of what he may profit thereby.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

F. Alcan, Paris.—O. Schmidt, "Les mammifères dans leurs rapports avec leurs ancêtres géologiques." (6*fr.*) —— W. Preyer, "Physiologie spéciale de l'embryon." Transl. by Wiet. (16*fr.*)

G. Carré, Paris.—E. Verrier, "De la deuxième enfance.—Hygiène, éducation."

O. Doin, Paris.—"Bulletins et mémoires de la Société française d'ophthalmologie," 1886. —— Cadet de Gassicourt, "Traité clinique des maladies de l'enfance." 2d ed.

J. F. Bergmann, Wiesbaden.—Duke Carl, of Bavaria, "Ein Beitrag zur pathologischen Anatomie des Auges bei Nierenleiden." (5*M.*)

Breitkopf & Härtel, Leipsic.—F. Winckel and R. Frommel, "Verhandlungen der deutschen Gesellschaft für Gynäkologie," 1886. (7*M.*)

BOOKS AND PAMPHLETS RECEIVED.

The Science and Art of Obstetrics. By Theophilus Parvin, M. D., LL. D., Professor of Obstetrics and Diseases of Women and Children in Jefferson Medical College, Philadelphia, and One of the Obstetricians to the Philadelphia Hospital. Illustrated with Two Hundred and Fourteen Wood-cuts and a Colored Plate. Philadelphia: Lea Brothers & Co., 1886. Pp. xv–17 to 701.

Sul valore comparativo degli Antisettici. Note sperimentali dei Dottori C. Bergonzini e R. Frignani. Modena: C. T. Vincenzi e Nipoti, 1886. Pp. 40.

De l'intervention chirurgicale dans les affections du rein. Par Azaire Brodeur, docteur en médecine de la Faculté de Paris; ancien interne en médecine et en chirurgie des hôpitaux de Paris, etc. Avec cinq planches en chromo-lithographie et neuf figures intercalées dans le texte. Paris: G. Masson, 1886. Pp. iv–576.

Miscellany.

The Abolition of Mechanical Restraint in the Alabama Insane Hospital.—In the recent "Biennial Report" of the superintendent of this institution, Dr. P. Bryce, a document of unusual excellence, we find the following remarks on mechanical restraint:

"It is very generally known that the system of mechanical restraint has for five years past been entirely discarded in this institution. And it gives me great pleasure, at the end of another biennial period, to reaffirm in the most emphatic manner all that I have previously stated in behalf of the new departure. With the exception of the occasional confinement to his room of a maniacal or excited patient, there has positively been no restraint of any kind imposed upon our patients. No advance that has been made in the treatment of the insane within the past fifty years has in my judgment accomplished better and more far-reaching results than the abolition of mechanical and other unnecessary restraint. It has been argued by some, who are not prepared to proceed to the extremes that we advocate, that in the absence of all mechanical restraint it becomes necessary, in the treatment of the destructive, violent, and suicidal insane, to resort either to the administration of dangerous narcotics, or to close and prolonged confinement. Our five years' experience has not borne out the truth of this statement, as I am prepared to prove. Out of a daily average of 722 patients during the past year, the total number secluded was only 37, of whom 18 were men and 19 were women. The total number of hours was for the men 204, for the women 326. There are weeks and even months at a time when no patient has been secluded or placed in solitary confinement, a result which was never obtained under the old coercive system. In the matter of medical or chemical restraint, as it is called, it is a fact that less narcotic medicines are given now than at any previous period in the history of the hospital. I do not misstate the case when I say that our consumption of hyoscyamine—a very common as well as safe and effectual hypnotic and quieting drug—does not exceed half a dozen grains during the whole year.

"The great changes which have taken place in the general characteristics of the hospital—in the quietness that pervades the wards, the tranquillity and contentment of the patients, and the confidence and good-will with which they regard their officers and nurses—are very striking when compared with the noise, restlessness, ill-will, and suspicion that prevailed under the old system of restraints. That this manifest improvement is largely if not entirely due to the substitution of the more natural and rational methods of discipline for the too often arbitrary and cruel use of mechanical apparatus, there is hardly room for a reasonable doubt. It is gratifying to record that restraint of all kinds has been greatly reduced in all of our best-managed hospitals for the insane, and that in its most objectionable forms it is now seldom or never resorted to by them except in those extreme cases where the life or safety of the patient or others is supposed to be in jeopardy. I am glad to say that we have never met with such extreme cases in our past five years' experience, although we frequently encountered them before, and we have pretty much reached the conclusion that the remedy itself does more to produce than to prevent them."

The Ohio State Sanitary Association will hold its fourth annual meeting in Columbus on Thursday and Friday, February 10th and 11th. The following papers are announced: "The Probable Results of Sanitation One Hundred Years hence," by Dr. D. J. Snyder, of Scio; "A Scientific Standard for the Safety of Illuminating Oils," by Dr. D. H. Beckwith, of Cleveland; "The Causes of Deafness and Blindness, with special reference to the Eruptive Fevers," by Dr. S. L. McCurdy, of Dennison; "Cremation of the Lower Animals," by Dr. E. S. Rickets, of Portsmouth; "Water-closets and Privy-vaults," by Dr. John McCurdy, of Youngstown; "Injurious Gases," by Dr. David O'Brine, of Columbus; "Our Fever Epidemic from Drinking Sewage," by Dr. C. E. Kurz, of Bellaire; "The Sanitary Condition of Sandusky before and after the Completion of Water-works and a Sewerage System," by Dr. Elwood Stanley, of Sandusky; "The Plumber's Rôle in the Sanitary Drama of the Day," by Mr. E. A. Futerer, master plumber, of Columbus; "Syphilis from a Sanitary Standpoint," by Dr. C. E. Beardsley, of Ottawa; the President's Annual Address, by Dr. H. J. Herrick, of Cleveland; "School Sanitation," by the Hon. Le Roy D. Brown, of Hamilton: "Some of the Practical Results of our Criminal Laws from a Sanitary Standpoint," by Dr. R. H. Reed, of Mansfield; "Diagnostic Responsibility," by Dr. H. M. Lash, of Athens; "The Results of a Mistaken Diagnosis, and its Consequences in Loss of Life and Financial Paralysis," by Dr. T. W. Gordon, of Georgetown; "The Examination of the Air of Apartments," by Professor C. C. Howard, of Columbus; "The Hygiene of the Sick-room," by Dr. F. C. Larimore, of Mt. Vernon; "The Sanitary Condition of the City of Mexico, from Personal Investigation," by Mr. E. D. Shreve, of Bucyrus; "The Plumber's Plea for Representation on the State Board of Health," by Mr. William Halley, master plumber, of Columbus; "Ptomaines and Poisoning by Tainted Foods," by Dr. J. U. Barnhill, of Columbus; "The Relation of Climatic Changes to Certain Diseases, with chart illustrations," by Mr. E. M. Mark, of Columbus; and "The Chronic Insane under County Care and in the Care of Families," by Dr. F. H. Darby, of Morrow.

An Addition to the recognized Varieties of Intra-scrotal Disease.—At a recent meeting of the New South Wales branch of the British Medical Association, Mr. Philip E. Muskett, honorary surgeon to the Sydney Hospital, read a paper in which he described a case of hydatid cyst simulating hydrocele. There was an intra-scrotal tumor of about the size of a large emu-egg on the right side. It was smooth in outline, and in its general contour nearly oval. It was tense and dull on percussion, but gave to the fingers on palpation the sensation of fluid within. There was no impulse on coughing, and it was irreducible. The position of the testicle at its posterior part was made out by the presence of testicular sensation. The cord could not be clearly defined at the upper portion of the swelling. Light was transmitted by the ordinary manner of procedure, and the history had been that of an eight years' growth, painless except from its mere weight. The house surgeon (Dr. Westrum), on July 17th, the day after admission, tapped him with a fine exploring trocar and cannula, and removed about an ounce of "serous-looking fluid," of "pale-yellowish tinge." A few days afterward his temperature rose repeatedly every evening two or three degrees above the normal, being attended with much heat and swelling about the tumor. Mr. Muskett now determined (July 30th) to empty it of its contents, and for this purpose used a full-sized trocar and cannula, giving exit to about six ounces of purulent-looking fluid. After this a good deal of pus drained away daily, and, feeling satisfied that there was something demanding freer outlet, he opened the scrotum antiseptically on the following morning, inserted a full-sized drainage-tube, and then stitched the cut edges of the tunica vaginalis and integument together. In the afternoon of the same day, however, a hydatid sac partly forced its way, and was partly extracted, through the opening left from the tapping ten days previously. It presented the usual and unmistakable characters of a hydatid sac, being grayish in color, translucent, elastic, and in its collapsed condition of such a size as would about fill an egg-cup. From this time the swelling gradually subsided, the sinus ceased to discharge, the scrotum returned to its normal condition, and the patient was subsequently discharged, cured.

Laryngology at the College of Physicians and Surgeons.—Dr. Lefferts's next lecture, to be given on Tuesday, the 18th inst., will be on the subject of malignant tumors of the larynx.

The European Faculties.—According to the "Lancet," there are 1,297 medical students at the University of Berlin; the one hundred and fiftieth anniversary of the founding of the University of Göttingen will be celebrated this year; the Government has promised to provide funds for building a new anatomical institute at Innsbruck; Professor Braun, of Jena, Dr. Madelung, and Dr. Mikulicz are candidates for the chair of surgery at Königsberg; Professor Credé has intimated a wish to resign the charge of the Lying-in Institution at Leipsic, which he has held for over thirty years; Dr. Simon Thomas, for nearly forty years the professor of obstetrics at Leyden, died recently, at the age of sixty-six; an extraordinary professor of anatomy is to be appointed at Upsala, charged with teaching histology and embryology; Professor von Bergmann, of Berlin, is reported to have declined a call to St. Petersburg, and Privat Docent Beltsoff has been appointed to take temporary charge of the late Professor Kolomnin's surgical clinic; Don Daniel de Zuloaga y Santos, professor of obstetrics at Granada, died recently of cerebral hæmorrhage, which occurred as he was going to his morning lecture. "Lyon médical" states that Dr. Laguaite has been nominated *professeur suppléant* of surgery and obstetrics in the Marseilles *École de médecine.*

The "Ephemeris of Materia Medica," etc.—We are glad to see that the publication of this work has been resumed. The first number of the third volume, for January, 1887, opens with this statement:

"A year ago the issuing of these pamphlets was abandoned with regret, and, as inclination and material are not wanting, they would be gladly resumed with something like the original frequency, if only the time for the necessary work was at command. Experience has shown that it is one thing to know a subject fairly well in a general way, and even to practice upon it with success, but quite another thing to write upon it with that degree of accuracy and definiteness necessary to publication for the use and information of others. As a rule, the work has to be done at or near the time when it is to be described, and in a busy life, with occupations hourly changing, special attention to one subject is at best confused and disturbed, and in a little while details get crowded out and forgotten. The one condition essential to successful work for publication seems to be abstraction from other occupations for a few hours at a time at least, and this the writer can very rarely command now that age and failing faculties have made night work impracticable. Under these circumstances, all that is indicated by the issuing of this pamphlet, as a number of the former series whereby a third volume is begun, is that, as time and circumstances may permit, it is proposed to prepare some material for publication, and, whenever such material may be in readiness, to offer it in this form, even if that should only be once or twice in a year. The writer has many papers which are occasionally asked for, published during the past thirty years in books not accessible to all interested in these subjects. Some of these, at least, he would very much like to revise and republish in this form if it were reasonable to entertain a wish so unlikely to be accomplished."

The French Prizes for 1887, 1888, and 1889 are announced by "Progrès médical" as to be awarded for the best essays on the subjects mentioned below. *The Academy prize.*—For 1887, "Vaginal Hysterectomy, the Indications and Operative Procedures"; for 1888, "Night-soil and Water-supply in the Sanitation of Private Houses"; for 1889, "The Physiology of the Pneumogastric Nerve." *The Capuron prize.*—For 1887, "The Normal Involution of Tissues and Organs after Parturition, and the Pathological Changes and Conditions that may result"; for 1888, "Mineral Waters in the Treatment of Chronic Rheumatism"; for 1889, "The Various Forms of the Cæsarean Operation." *The Civrieux prize.*—For 1887, "Vesical Neuralgias"; for 1888, "Auditory Hallucinations"; for 1889, "Sensory Disturbances in Tabes." *The Daudet prize.*—For 1887, "Actinomycosis"; for 1888, "Syphilitic Gummata"; for 1889, "Congenital Neoplasms." *The infantile hygiene prize.*—For 1887, "The Clinical Study of Athrepsia." *The Lefèvre prize.*—For 1887, "Melancholia." *The Portal prize.*—For 1887, "Primary Renal Tuberculosis"; for 1888, "The Pathological Anatomy of Erysipelas"; for 1889, "The Pathological Anatomy and Physiology of the Suprarenal Capsules." *The Falret prize.*—For 1888, "The Relations between General Paralysis and Syphilis." *The Orfila prize.*—For 1888, "The Venom of the Viper." *The Louis prize.*—For 1889, "Antithermic Medication."

Medicine and Dentistry.—In an editorial article with this title, our able contemporary, the "Independent Practitioner," says:

"It should be remembered that dentistry in America occupies an anomalous position. Whether wisely or not, and whether for the ultimate best interests of dentistry or not, the founders of our modern practice had no alternative, if educated and thoroughly equipped members were to be received, except in the establishment of segregated schools, and the conferring of a distinct diploma. This cut us off from medicine, for no one will for a moment imagine that the mother profession could acknowledge any diploma save her own, or recognize any school as competent to confer that diploma save regularly constituted medical ones, teaching the whole science of medicine. In no other country does this anomaly exist. In most of the European nations, until within a recent time, to become a fully recognized and approved dentist, a complete medical training was necessary. Now, in most of them, a special curriculum of dental study has been established, and the dentist recognized by medicine is not required to graduate in general surgery or obstetrics.

"In America, the tendency is toward a higher education in dentistry, and since the peculiar course of some of our separate schools in cheapening the dental degree and conferring it upon doubtful candidates, foreigners especially, there has been a deepening feeling in favor of a degree that has not been, in a measure, tainted by unworthy men. Years ago we drew upon ourself the censure of some of our separate schools by the statement that, in our opinion, the tendency of the times was toward the education of dentists in medical schools with special dental departments. It was a simple, bald statement of what we believed to be a fact, whether of good or evil import. The course of the dentists in other countries in securing the establishment of dental professorships in the universities, and the sending of dental students to those institutions, has proved that we were correct.

"In America we have arrived at the parting of the ways. Shall we, in the future, endeavor to draw yet closer the bond which unites us to the mother profession, or shall we strike out an independent course, cut ourselves adrift from medicine and burn our bridges behind us? It is time that a future policy be marked out, and we enter upon an intelligently resolved course of action. This can only be determined by calm and dispassionate debate. It is not the part of wisdom to appeal to prejudice, nor to allow our passions to dominate our action. The disputant who appeals to personal bias, or who harbors unworthy and ulterior motives, should be allowed no voice in our discussions. Hard words only provoke hard words in return. Our opponents are not half as bad men as we usually picture them.

"It is not to be supposed that this is a question of the existence of our separate schools. Their immediate and unconditional abolition, even were it possible, would be a backward step. Neither is it the diploma of D. D. S. *versus* that of M. D. This question need not enter into the consideration of the case. In England, where the relations of dentistry and medicine are so close, the separate degree of Licentiate of Dental Surgery (L. D. S.) has been established, but it emanates from a medical source, and the qualified dentist is amenable to a medical tribunal. In Germany, the approbated dentist derives his authority to practice from a medical court. It is not, perhaps, generally known that, in one State of our Union—Alabama—long before the war, an enactment placed dentistry directly under the control of medicine, and gave to medical authorities the sole right to license dentists to practice. The gulf which separates the two is not now a wide one, and it may be bridged over or irreparably extended. The question to be decided is, whether we shall, by precipitate action, sever all ties, or endeavor to get into yet closer relationship with medicine. We can not occupy the anomalous position of neither actually belonging to it nor being separated from it."

The Health of Michigan.—According to returns made to the State Board of Health for the five weeks ending January 1st, diphtheria was observed at seventy-one places, scarlet fever at forty-six, typhoid fever at twenty-six, measles at sixteen, and small-pox at one place (Detroit).

The Massachusetts General Hospital.—We learn that the trustees have decided to build a new ward, to be devoted to abdominal surgery. The details of its arrangement have not yet been all decided upon, being left largely to the judgment of the surgical staff, but the general idea is that of an operating theatre with beds attached. The foundation will soon be laid.

THE NEW YORK MEDICAL JOURNAL, January 22, 1887.

Original Communications.

IMPACTED FRACTURES OF THE NECK OF THE FEMUR.*

By W. H. WILDER, A. M., M. D.,
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The importance of recognizing and properly treating so grave an injury as a fracture of the femur goes almost without saying. The importance of properly recognizing an impacted fracture of the *neck* of this bone, and of obtaining this valuable information without detriment to the interests of the patient, is quite as apparent, and should induce the surgeon to keep in mind a bright and clear knowledge of this subject. We can hardly conceive of a surgeon who would have the temerity to dislodge the impacted fragments of a broken femur, with the vain hope that thereby he might avoid the deformity that is an almost inevitable sequel of this class of injuries; but we know that he is content if he can apprehend this happy condition of affairs in time, that it may aid his course of treatment, and give some promise to the unfortunate sufferer that he still may have a useful if not a perfect limb.

However, this very practice of dislodging the fragments is unwittingly employed by the operator who uses rough and ill-timed manipulation in an endeavor to obtain a crepitus, which in many cases is not obtainable, and in many more is only received at the expense of breaking up the impaction, and thereby doing at times irreparable mischief.

In many cases the displacement of the fragments of the fracture is due to the continued action of the force that produced the injury; and in many more the same result is accomplished by the contraction of the muscles covering the part, or by an attempt to stand on the injured member; but it is very probable that a considerable number suffer this further accident by a careless attempt at a diagnosis, or a useless endeavor to overcome the shortening and the deformity.

The frequency of this form of fractures, and the advantage of its recognition, seem to have been overlooked by some of the earlier writers, while several of the later authors prefer to discard the old classification of intra- and extra-capsular fractures for the more practical one of impacted and non-impacted. R. W. Smith, of Dublin, writing in 1834, after the examination of one hundred specimens, expressed the opinion that all extra-capsular fractures were at first impacted, and that those within the capsule might sometimes be impacted. Malgaigne also believed that impaction associated with fracture through the trochanters was the invariable result of an extra-capsular fracture. This accords with the view of Mr. Bryant, who also thinks that impaction may occur, though not commonly, entirely within the capsular ligament.

Professor Bigelow classifies these cases as impacted fractures of the base of the neck and unimpacted fractures of the rest of the neck, regarding this as a rule to which all other forms are exceptions.

In an analytical table of 322 fractures of the femur in Bellevue Hospital from 1865 to 1873, inclusive, elaborated by Dr. Hyde, there are 61 fractures of the neck, of which 14 are recorded as intra-capsular and 17 extra-capsular, with 30 undetermined (" Medical Record " for 1875).

Dr. Frank Hamilton compiled a table of fractures, of which 81 were of the neck of the femur, 42 of which were extra-capsular, 30 were within the capsule, and 9 were undetermined. This, in connection with the opinion of Nélaton, who believed that extra-capsular fractures were the most common, and that of Bonnet and other observers, would lead us to suppose that extra-capsular, and therefore impacted, fractures of the neck of the femur comprise one half, if not more, of the cases in which the neck of this bone is broken. This injury is one that occurs with much greater frequency to individuals who have passed the meridian of life, thus presenting a striking contrast to dislocation of the femur, the majority of cases of which are seen in persons of younger age and more active habits. Indeed, when scrutinizing an injured hip, one should suspect a dislocation in a person under forty-five or fifty, and a fractured bone in one over that age. An explanation of the fact that fractures of the neck of the femur are more frequently seen in the later years of life and in women has been offered by Dupuytren, who says he never saw an injury of this kind in a child. This eminent surgeon maintains that the angle that is formed by the axis of the neck and the axis of the shaft is different in the two sexes, and that as age advances it changes perceptibly.

In the majority of normal healthy femora of adult life this angle is an obtuse one, varying from 125° to 135°, and furnishes the greatest resistance to injuries of this part.

But later in life, as this bone keeps pace with other senile changes, the angle of the neck becomes more acute, until it may reach 90°. This change is supposed to be due to wasting of the extremity of the bone and the increasing porosity of the cancelli incident to old age, whereby the bone yields to the superincumbent weight of the body. The supposed reason for the loss of strength that results from this change of direction of the neck will be mentioned when we consider the internal arrangement of the lamellæ of this bone. The more obtuse is the angle of the neck, the less liable is a fall upon the feet or upon the trochanter to fracture the bone.

In children this part is further protected on account of the small size of the trochanter, the prominence of the ilium, and an abundance of fat and soft tissue, which acts as a cushion to the bone.

The cervix femoris of women is supposed to be longer than in men, without the proportionate increase in thickness; and this, together with the notable prominence of the greater trochanter, renders this sex more exposed to accidents of this nature. The wasting of the muscles, the general emaciation, and the weakness consequent upon this senile change, are other elements of danger to aged persons, and should be considered predisposing causes of such fractures.

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* Read before the Cincinnati Academy of Medicine, November 29, 1886.

Packard questions the truth of the existence of this altered direction of the neck of the femur in old age, and states that, many times, he has seen young femora which presented a more acute angle than old ones, and he has also seen aged femora in which there was no decrease in the normal obliquity of the neck. These apparently exceptional cases might be explained by an existing disease of the bone in youth, tending, of course, to weaken it, and by a preternatural vitality in old age able to resist the destructive tendencies of that period.

It is generally conceded, however, that this altered direction of the neck exists in the majority of aged people, and that it increases the liability of this bone to fracture.

The consideration of the pathology of this fracture, of the arrangement of the cancelli and their beautiful adaptation for strengthening this part, and of the operation of certain forces that may cause the destruction of their integrity, affords an interesting topic for study. A section through the head and neck of a healthy adult femur reveals a series of lamellæ or columns of bony tissue, starting from a point corresponding to the junction of the anterior intertrochanteric line with the lesser trochanter, on the internal surface of the bone, and curving upward and inward to support the thin concave covering of the head. These serve the purpose of braces for the head and neck, but, without any other support than that obtained from the internal surface of the shaft, they would be inadequate to support the weight of the body.

We find other lamellæ passing upward and outward from the same point, to reach the junction of the upper surface of the neck with the shaft, just within the greater trochanter; and there, meeting lamellæ that start from a corresponding point on the outer surface of the shaft, a series of beautiful arches is formed, beneath the upper wall of the neck, which are essentially Gothic in their style and strength. These arches, with their bases implanted in the firm tissue of the shaft, furnish the support for other columns or braces which pass from them to the head, and lend strength to those first mentioned. In consequence of this beautiful provision of Nature, any force brought to bear upon the head of the bone in a vertical direction, such as the weight of the body in standing, or when it is suddenly thrown upon the head of the femur, as from a fall on the feet, is transmitted to this series of strong arches by means of the bands that run to them from the head. Part of the force is thus sustained by them, while the rest is transmitted to the shaft near the lesser trochanter through the bands that pass from this point upward to the head.

It will be readily perceived that when the angle of the neck with the shaft is very obtuse, and the direction of the axis of the neck approaches that of the shaft, the lamellæ that pass from the lesser trochanter to the head of the bone will be more nearly vertical, and hence can sustain a force applied to them in this direction better than if they were separated farther from the arches, as they are when the obliquity of the neck is decreased.

A knowledge of this lamellar arrangement will explain the fact that comparatively few of these fractures are received by a fall upon the feet, although this may be the case when the force is severe, or when there is an altered direction of the neck. In thirty-six cases examined by Desault, with especial reference to this point, twelve were caused by falls upon the feet, while twenty-four were the result of a fall upon the greater trochanter. When a fall upon the feet does produce the impacted form of fracture, the neck is usually crushed in at a point just above the lesser trochanter, where the fibers converge to receive their support. The force, continuing, may crush in the side of the arches that have been described, and drive the neck into the upper part of the shaft, either splitting the trochanter, an occurrence which is quite common, or only breaking the under surface of the neck, a much rarer form. When a fall is received upon the trochanter, the most common cause of injuries to the neck of the femur, the force of the accident is occasioned by the weight of the body suddenly impinging upon the head of the bone. In this position, the fibers or lamellæ are at a disadvantage, for the neck, representing a lever with the fulcrum at its attachment to the shaft, will either force in the sides of the arches, producing an impacted or complete fracture at the base of the neck, or be broken off at its weakest point, the constriction around the head. In this case the force has a tendency to increase the obliquity of the neck, or, in other words, to make the axis of the neck parallel to that of the shaft. If the obliquity were normal at the time of such an accident, it would seem that the force would not be transmitted to the shaft and base of the neck, but would expend itself principally upon the head, thereby causing an unimpacted fracture of the neck within the capsule; but if the direction of the neck were altered so as to form a right angle with the shaft, the force would be applied in the direction of the axis of the neck, and so might either produce an impacted fracture near the head (a form that is said to be very rare), or an impacted fracture near the base of the neck. With the same difference in direction of the neck, and with the force applied in a slightly different manner, there might be a tendency to make the angle of the neck with the shaft an acute one, thus forcing the head of the bone still farther down, and crushing in the base of the neck near the lesser trochanter. This is a form of impacted fracture that is very uncommon. In the work of R. W. Smith ("Fractures and Dislocations," 1834) there is an engraving of a case, illustrating this variety of injury, in which the neck forms an acute angle with the shaft.

Smith, having examined one hundred cases of so-called extra-capsular fractures, believes not only that all fractures of the neck, external to the capsular ligament, are impacted, but that they necessarily involve the trochanteric region. Cruveilhier alludes to the same point by saying, "One rarely sees an extra-capsular fracture of the femur perfectly simple." In this fracture the neck is driven through the sides of the arches that have been described by a force which is supplemented by an outward rotation of the femur, which usually occurs, thus pressing the posterior intertrochanteric ridge against the neck, and thereby virtually splitting open the shaft. If this force continues long enough, or if, in attempting to rise, the individual falls again, the cervix may be loosened from its bed, and a complete fracture will be the result; but it commonly remains impacted. The force may be severe enough to send the base of the neck completely through the shaft, so that it will protrude through the outer side, and present itself just beneath the skin. Rodet has attempted to adduce diagnostic signs from the knowledge of the direction of the applied force, maintaining that when the fall is vertical—*i. e.*, on the feet or knees—the line of fracture will be intra-capsular and oblique; when antero-lateral—*i. e.*, on the anterior surface of the trochanter—it will be transverse and intra-capsular; and when directly on the trochanter, it will be extra-capsular and impacted. These directions, although they may be of some general utility, are not altogether reliable, and could only be used as corroborative signs.

On account of the thin covering of the posterior surface of the neck, just internal to the posterior intertrochanteric ridge, this part is commonly broken first, and pressed more deeply into the cancellous tissue of the shaft, thereby causing an eversion of the limb, the pathology of which is perfectly clear.

In certain cases the opposite of this may occur, the anterior surface of the neck being the more deeply impacted, causing the rare condition of inversion of the foot.

When impacted fracture of the neck occurs entirely within the capsular ligament, the form of the injury does not resemble that at the base of the neck, in which the superior fragment is implanted in the inferior fragment, for the reason that the relative size of the parts is such that one could not be received into the other. In this interesting form the head of the bone is described as "sunken below the natural level, and the line of the fracture has taken an undulatory course." The internal portion of the upper fragment is seen to overlap the lower, while the external portion of the lower fragment—that is, the upper wall of the neck—presses up over the upper fragment. The compact layer of the internal or lower wall of the neck is forced up into the yielding reticular structure of the head, and so the broken parts support each other. Of sixty cases of fracture of the neck of all varieties described by R. W. Smith in his admirable work on fractures, four were of this character; and, in perusing the histories of these cases, one is impressed with the belief that several more in the list of intra-capsular fractures may have been impacted at first after this manner.

Why may not a fracture of this kind heal by bony union, even if it is within the dreaded boundaries of the capsular ligament? This dovetailing of the fragments holds them firmly in position, and gives the bone the best possible chance of recovery. Indeed, it is quite probable that this form of intra-capsular fracture occurs more frequently than has been supposed, and that, if more broken femora could be examined after a proper course of treatment has been pursued, bony union within the joint would be found in many more cases than those rare ones recorded in surgical literature.

It is so doubtful that impacted fractures ever occur after a sudden muscular action that we will not stop to consider the operation of this supposed cause. A sudden twist of the body is much more likely to be a cause of complete intra-capsular fracture than of the impacted form; but, when it does produce the latter, the force must be applied in much the same manner as that pertaining to falls.

The prognosis of this class of injuries is of such importance that it may affect the happiness of the surgeon on the one hand, and that of the patient on the other. If, when called to a case of this kind, the physician, after a hasty examination and a failure to detect crepitus, inadvertently announces his opinion that there is no fracture and that the patient will soon recover from a simple contusion of the hip, he will probably be surprised soon after, when the patient attempts to get about and separates the fragments, and his face will get longer as the limb gets shorter.

Of course, the prognosis will be affected by the degree of the impaction, the age and vital resistance of the individual, and other considerations. The bone is in the best possible condition of healing if the fragments are not displaced by an attempt at walking, at moving the limb, or by an over-zealous search for a correct diagnosis, or an immoderate amount of extension. It is conceded by all eminent authors who have engaged in the celebrated controversy regarding the possibility of a bony union resulting after an intra-capsular fracture that, if it ever does occur, it is much more liable to do so when the fragments are held together by a natural impaction. Theoretically, we can see no reason why an intra-capsular impacted fracture should not heal as well as one impacted outside of the capsule, provided, of course, the general condition of the patient is favorable to any kind of healing process. If the impaction remains until the continuity of the bone is restored, the deformity will probably be the same as at the time of the receipt of the injury, unless further shortening of the bone should happen on account of interstitial absorption of the neck.

There is much less likelihood of a large mass of bony tissue being thrown out around the seat of fracture to interfere with the mobility of the joint than in the unimpacted varieties. Great stress is laid upon the statement that shortening is an inevitable result of impacted fractures of the neck, provided the impaction remains permanent, by such eminent authorities as Sir Astley Cooper, Mr. Robert W. Smith, Dr. Frank Hamilton, and others. I can not see why this result, which takes place in the vast majority of these injuries, must be inevitable or invariable. We can conceive of an injury to this bone received by a force applied to the anterior part of the great trochanter, which crushes in the posterior wall of the neck, and forces it to change its lateral position, as viewed from the side, without affecting the obliquity that the neck makes with the shaft. In such a case the eversion and all the other signs of fracture would be marked, but the shortening would be nil. I have this reason to believe that a case which I recently treated was of this nature, for, after the most careful measurements, repeated several times, I have been unable to detect any difference in the length of the limbs. This accident happened to Mrs. S., sixty years of age, on June 19, 1886, from a fall on the left hip.

When I was called, about two hours after the injury, I found her in bed, suffering great pain, which was aggravated by pressure behind the great trochanter. There was no shortening of the limb upon measurement, nor was there any shortening of the line devised by Mr. Bryant. The eversion of the left foot was marked; the trochanter rotated through a normal arc. I placed her in bed and applied moderate extension, with sand bags to the outer and inner surfaces of the thigh to steady it. In six weeks I allowed her to sit up, and in eight weeks she was walking about with the assistance of a crutch. There is no shortening at the present time, but the eversion is just as marked as at the time of the receipt of the injury, and incommodes her somewhat in walking. Five months after the date of the injury, with the assistance of Dr. Longstreet Taylor, of Cincinnati, the limb was re-examined and found to be of the same length, if not a trifle longer than the other. A bony callus could be felt behind the trochanter.

If so many cases of fracture are impacted at first, it behooves us to exercise great care in our efforts to establish a diagnosis, and to examine every case of recent injury of the hip with as much caution as if we suspected an impacted fracture of the neck within the capsule. Furthermore, the reputation of the attending surgeon is so much at stake in cases of this nature that he can not afford to commit an error in diagnosis by pronouncing a certain injury to the hip a contusion, not to be followed by any serious impairment of function, when it is in reality an impacted fracture. There will almost invariably be deformity or shortening in these cases, and probably always lameness.

It will be impossible to tell the difference between an extra-capsular and an intra-capsular fracture of the neck of the femur; the signs will be the same. Of course, the fact that extra-capsular impacted fractures occur with much more frequency than those within the capsular ligament will help to determine the character of the injury, but it should always be borne in mind that fractures of the latter class may occur. It is very probable that more fractures are partly intra-capsular, or intra-articular, as Packard expresses it, than has been generally supposed, and the fact that a fracture of this mixed variety may be present does not in itself impair the chances of the patient for a good recovery.

Loss of function is one of the commonest signs of this accident, as it is of non-impacted fractures of the neck of the femur; but this is not invariable, for cases have been reported in which the patients were able to walk upon the injured limb, and move it about easily, although not without pain. In such a case the fragments of the broken bone must be held very firmly in place by each other.

Shortening of the injured member is noticed in almost every case, the degree depending, of course, upon the extent and character of the fracture. It has been said that lengthening of the affected limb may occur, this being due to a "peculiar form of impacted fracture, in which the rupture of the osseous tissue occurs at the inferior surface of the neck, by which its obliquity is increased." Dupuytren gives M. Lallemant the credit for first calling attention to the fact that this sign may exist in cases where there is a paralytic condition of the muscles of the injured limb. Such a sign would be particularly manifest, on account of the weight of the leg, if the patient were in the erect posture. The shortening is rarely so great as that which is present in the non-impacted varieties of fracture, especially those that exist entirely outside of the capsule. In many complete intra-capsular fractures the firm ligamentous bands that pass along the neck from the reflected surface of the capsule, described first by Weitbrecht in 1742 under the name of "retinacula," may not be broken by the force of the injury, in which case the fragments will be held in close apposition and the shortening will be very slight. Such a case might possibly be mistaken for an impacted fracture, but an attempt at rotation would probably show this condition.

An everted position of the foot is one of the most characteristic signs of any fracture of the neck of the femur, and in the vast majority of cases it will be present in such an injury. It is without the scope of this paper to discuss the cause or causes of this abnormal position in complete fractures, for it is quite evident that in the class under consideration it must be due, generally, to the nature of the impaction.

But this is not a constant sign, for the foot may remain in its natural position, or it may be inverted as first described by Ambroise Paré. This rare condition, of which Dupuytren saw but two cases in his practice, is probably due to the peculiar obliquity of the fracture, by which the shaft of the femur is rotated forward upon the neck. It is important to differentiate this from dislocation of the head of the femur upon the dorsum ilii. In the latter there will probably be much greater shortening and eversion; the limb can not be rotated, and the head of the bone may be felt beneath the soft parts. Dislocation will probably be seen in individuals under fifty years of age, while fracture will usually occur in later years. The method of diagnosis originated by Maisonneuve, by which he detects a fracture of the neck by placing the patient on the belly and carrying the injured limb to a greater degree of extension than the sound one, would hardly be applicable in the class of fractures under consideration.

I will now mention briefly a rule for diagnosis of impacted fractures of the neck, devised and practiced by Mr. Bryant, of Guy's Hospital, London, and described by him in the "Lancet" of January 22, 1876, and also in his work on surgery. It seems to approach more nearly to infallibility than any ever before offered. The patient is placed upon his back, in a horizontal position, on a hard mattress or the floor. A vertical line is dropped from the anterior spinous process of the ilium. A horizontal line, drawn from the tip of the trochanter to this line, and at a right angle to it, will indicate at once the distance of the trochanter from the vertical line, and a comparison of the two sides will show any shortening that may exist. If shortening is present, the trochanter of the injured side will be nearer the vertical line before described than that of the sound side. This valuable method of diagnosis will fail only in those rare cases in which no shortening exists.

The practitioner must avail himself of all these signs, for none of them alone is pathognomonic; and it is only with the utmost care and the attentive consideration of the evidence that these afford that he will be able to differentiate some of these impacted fractures from severe contusions of the hip.

THE CLIMATE OF EL PASO, TEXAS.[*]

BY E. W. SCHAUFFLER, A. M., M. D.,
KANSAS CITY, MO.

MR. PRESIDENT AND GENTLEMEN: I propose in the present paper to lay before you very briefly such facts as a recent visit to that place has enabled me to collect with regard to the climate of El Paso, Texas. I do so because I believe El Paso to possess one of the best winter climates in the United States, while it is at the same time in the near neighborhood of some of our most salubrious summer resorts, such as the Hot Springs of Las Vegas, N. M.

In presenting to you its qualities I rejoice in the assurance that I repeat to you no twice-told tale, for the town itself is but five years old, and I am not aware that its advantages as a winter resort have ever been brought to the notice of any body of medical men.

El Paso is situated at the extreme western boundary of Texas, in that tongue of land which is bounded on the north and west by New Mexico and on the south by the Rio Grande River. Its longitude is 106° west and its latitude 32° north, the longitude being the same as that of Santa Fé, N. M., and the latitude nearly the same as that of Savannah, Ga., and San Diego, Cal. It is 340 miles south of Santa Fé, constituting the southern terminus of the Atchison, Topeka, and Santa Fé Railroad, and the point where this road connects with the Mexican Central Railroad. Three other trunk lines—two from the East and one from California—center here, bidding for the Mexican trade, and thus what was five years ago a sleepy little settlement under the wing of Fort Bliss has now become an active, enterprising town of some five or six thousand inhabitants, with much actual business and boundless expectations.

The mountain ranges of New Mexico and old Mexico abutting on the river at this point give variety and beauty to the landscape, and contribute that exhilarating quality of "mountain air" which, combined with the mild temperature of the winter season, constitutes the charm of the El Paso climate.

The altitude is 3,760 feet above the sea-level—high enough to be pure and bracing, and yet not high enough to embarrass the heart's action and increase the dyspnœa of those affected with pulmonary complaints. I found it true with regard to myself while suffering from a severe attack of bronchitis, and also with regard to others whom I met, that whereas at Las Vegas and Santa Fé (at an altitude respectively of 6,700 and 7,100 feet) we suffered from dyspnœa and had to walk slowly, like confirmed invalids, the descent to El Paso enabled us to walk briskly and soon made us feel equal to running a foot-race.

The soil is sandy and very porous.

The temperature is hot in summer, mild in winter. For those who have the means of traveling, it would be folly to summer in El Paso, and yet the dryness of the atmosphere is such that a temperature of 100° to 105° in the shade is more endurable than that of 80° to 85° in Philadelphia. Sunstroke is unknown, in spite of a maximum temperature of 110° in summer, and those who are compelled to remain there do not perish with the heat, nor suffer much if any more than the inhabitants of Eastern cities.

But it is the winter temperature to which I wish to call attention, as well as the small amount of rain-fall and the small number of cloudy days, these conditions combining to constitute the charm of the winter, during which season the invalid can walk, or even sit out of doors, almost every day. Combined with the mild temperature there is, as I have before remarked, a bracing, tonic quality to the air, due, perhaps, in part, to its rarity and dryness, which I have failed to find in the air of Florida, of the Gulf, or even of San Antonio, Texas.

The following tables of temperature, etc., are taken from the report of the Chief Signal Officer of the United States army, a signal station having been maintained at Fort Bliss, one mile from El Paso, for the period covered by this report:

YEAR AND MONTH.	TEMPERATURE.				Rain-fall and snow, in inches.	NUMBER OF DAYS.				
	7 A. M.	3 P. M.	11 P.M.	Mean.		Clear.	Fair.	Cloudy	Rain.	Snow.
1881.										
July	70·5	91·5	78·8	80·3	8·18	5	23	3	9	..
August	70·7	88·4	76·0	78·4	3·15	16	12	3	15	..
September	63	85·3	70	72·8	1·44	19	7	4	5	..
October	55·4	79	64·1	66·2	1·45	13	18	0	10	..
November	36·3	58·6	46·2	47	·5	19	9	2	2	..
December	35	57·1	43·6	45·2	·78	19	11	1	3	..
Total or mean	....	....	....	64·9	15·50	91	80	13	44	..
1882.										
January	35·1	53·3	43·7	44	·64	15	12	4	4	..
February	37·8	56·2	47·3	47·1	·78	16	7	5	5	..
March	43·3	67·0	55·4	55·2	·38	21	6	4	4	..
April	49·1	75·2	60·7	61·7	...	23	5	2	0	..
May	55·3	83·8	70·2	69·8	·10	27	3	1	1	..
June	65·8	93·3	77·8	79	·43	16	13	1	7	..
July	71·8	96·8	87·5	83·4	1·26	16	13	2	9	..
August	66·5	88·4	75·1	76·7	2·52	18	9	4	11	..
September	57·5	82·1	67·8	69·1	·40	24	4	2	5	..
October	44·3	75·9	59·2	59·8	...	28	3	0	0	..
November	40·8	60·7	49·3	50·3	1·46	15	10	5	7	..
December	33·1	54·2	42·3	43·2	...	27	4	0	0	..
Total or mean	....	....	....	61·59	7·69	246	89	30	53	..
1883.										
January	32·2	52·6	42·7	42·5	·10	20	10	1	3	..
February	40·3	57·8	49·5	49·2	·40	10	12	6	6	..
March	48·9	65·0	55·7	56·5	2·09	16	9	6	3	..
April	49·7	72·5	60·2	68·8	·10	26	3	1	1	..
May	60·1	83·1	71·4	71·5	·02	26	2	3	1	..
June	71·1	95·3	81·7	82·7	·02	24	6	0	2	..
Total or mean	....	....	....	60·5	2·73	102	42	17	16	..

In looking at these tables, I would especially call attention to the large number of clear and fair days and the small amount of rain-fall shown during the winter months.

The following table of the mean monthly temperature, the rain-fall, and the number of clear, fair, and cloudy days during the year 1884 is taken from a pamphlet published by the El Paso Bureau of Information, and is entirely consistent with the Signal-Service reports of previous years:

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[*] Read before the American Climatological Association at its third annual meeting.

1884.	Mean temperature.	Rain-fall in inches.	Clear days.	Fair days.	Cloudy days.
January	39·9	·55	15	13	3
February	50·6	·84	14	12	2
March	54·5	·33	19	9	3
April	59	·91	16	13	1
May	69	none	19	10	2
June	78·4	·11	19	9	2
July	85·5	·46	11	16	4
August	79·6	3·98	5	16	10
September	72·7	3·68	15	10	5
October	62·6	5·15	11	12	8
November	51·5	·22	18	10	2
December	46·9	2·07	11	13	7
Total or mean	62·5	18·3	173	143	49

The following comparison of the number of cloudy days in Denver, Col., and El Paso, Texas, for eighteen months, taken from the Signal-Service reports, is offered for what it is worth, the length of time covered not being sufficient to give it great value:

Total number of cloudy days.

PERIOD.	Denver.	El Paso.
12 months, 1882	33	30
6 months ending June, 1883	36	17

Wishing to compare the monthly and annual mean temperature and the rain-fall of El Paso with those of Las Vegas Hot Springs, Denver, and San Diego, Cal., I have had recourse to some tables compiled from the Signal-Service records by Lieutenant W. A. Glassford, U. S. Army, which appear in a pamphlet entitled "Illustrated New Mexico," edited by W. G. Ritch, and published by the Bureau of Immigration at Santa Fé, N. M.:

Monthly and Annual Mean Temperature (Fahrenheit) of places named, being the mean of the observations of several years.

	Santa Fé, N. M. (Las Vegas).	Denver, Col.	El Paso, Texas.	San Diego, Cal.
January	28·2	27·1	46·9	53·7
February	31·7	33	50·6	54·4
March	39·1	39·4	57·4	55·5
April	45·5	46·3	64·6	57·8
May	56	56·9	73·3	61
June	65·4	67	81	64·2
July	68	72·1	81·8	67
August	65·9	70·5	78·6	68·7
September	59	60·7	72·8	66·5
October	49·4	50·2	64·3	63
November	36·7	35·5	50·5	58·2
December	30·2	30·4	46·3	55·4
Annual mean	47·9	49·2	63·4	60·4
Mean for winter months	30·0	30·1	47·9	54·5

Precipitation of Rain and Snow, in inches.

PLACE.	1875.	Average of several years, differing at the several places.
Santa Fé (Las Vegas)	16·65	13·89
Denver	15·24	14·57
El Paso (Fort Bliss)	9·56	11·90
San Diego	9·16	9·62
New York	43·24	43

In view of its mild winter climate, as shown by the foregoing tables, its altitude, the great dryness of the atmosphere and soil, and the remarkable preponderance of clear and fair days, especially during the winter and spring months, I think it must be conceded that El Paso presents many of the requisites of a winter resort for persons suffering from pulmonary complaints. Nor is this merely a theoretical conclusion. It is confirmed by the experience of a considerable number of asthmatic, bronchitic, and phthisical patients who have already tested the virtues of this climate. Some of these I met myself during a stay of some weeks last February and March, and with regard to others I was informed by the physicians of the place and the army officers at Fort Bliss. The testimony was the same that is usually obtained at such places—viz., that the patient soon began to lose his cough, to improve in appetite, and to gain in weight and strength.

Notwithstanding the newness of the place, the accommodations of El Paso are very fair. There are several quite large and respectable hotels, there is a good market, and the price of living is not high. Although in Texas, it is a very wide-awake Yankee town, or rather a cosmopolitan town, with an elegant court-house, public-school building, numerous churches, etc. One great charm to the visitor or sojourner is the proximity of old Mexico, just across the Rio Grande, where, within an easy walk or drive, he finds the city of Paso del Norte, surrounded by a well-irrigated and cultivated country, teeming with a kindly and industrious population. For myself, I never wearied of watching their strange seventeenth-century methods of living and working.

El Paso is best reached by way of the Atchison, Topeka, and Santa Fé Railroad from Kansas City. It offers to young men especially one inducement belonging to but few health resorts, and that is a reasonable probability of securing employment, inasmuch as it is a growing business place and not overrun with invalids.

A CASE OF SUBMUCOUS LARYNGITIS TREATED WITH HOT WATER.*

By A. H. BUCKMASTER, M. D., Brooklyn,

ALUMNUS OF THE WOMAN'S HOSPITAL, VISITING GYNÆCOLOGIST TO THE HOSPITAL FOR MENTAL AND NERVOUS DISEASES, ETC.

While I was house surgeon at St. Peter's Hospital, Dr. Rushmore was called in consultation to see a case of acute laryngitis in which the respiration was becoming difficult.

The patient was a stout young Irish girl, eighteen years of age, who had suffered for a couple of days with the symptoms usually accompanying a sore throat, such as pain, hoarseness, and difficulty in deglutition. After an examination of the patient I was directed to perform tracheotomy should the symptoms become urgent during the night.

At midnight the Sister called me to the bedside of the patient, who was cyanosed and breathing with the greatest difficulty. Her voice had been hoarse during the day, but she now seemed unable to speak. Her pulse was rapid and feeble, and I felt that the only method for relief was the surgical one of opening the trachea. When I examined her throat it seemed a pity to make a scar in this position. This thought was emphasized by the fact that we had in the wards at this time a boy whose neck presented an unsightly cicatrix, the result of a previous operation. I had recently read Dr. Emmet's article on the use of hot water, and determined to try it in this instance. A rubber blanket was quickly spread upon the bed, and the patient placed so that the head was lower than the shoulders. A large supply of hot water, at about 120° F., was thrown against the œdematous tissues by means of a Davidson syringe. The head was turned on its side, so that the water could easily return and be carried by the sheet into a pail. At first this procedure caused the patient to attempt to swallow, but it was quickly overcome; the breathing became easier, and, at the end of half an hour, the distressing symptoms had disappeared.

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* Read before the Medical Society of the County of Kings, September 21, 1886.

It might be urged that the obstruction to the breathing was due to a spasmodic closure of the vocal cords, but the gradual progression of the symptoms was favorable to the view that the œdema was the chief cause. While making preparations to use the hot water, the danger seemed so imminent that I retained a knife in my hand ready to act instantly if necessary.

In looking up the literature of the subject I am unable to find any reference to the use of hot water for this purpose. Very little is said as to the *modus operandi* of hot water. It has been studied chiefly from its clinical standpoint. To this, however, there is a recent exception in favor of Dr. Milne Murray, of Edinburgh.

The honor of having first brought this therapeutic agent prominently to the attention of the medical world, which belongs to Dr. T. Addis Emmet, should be shared by the investigator who accurately indicates its method of action, The studies of Dr. Murray promise to elucidate the subject. and, as they are very recent, I venture to speak of them. He experimented on rabbits of different ages, both pregnant and not pregnant. By exposing the uterus and fixing one of its cornua, the distal end of which was connected by a fine tenaculum with a lever arrangement, the slightest contraction could be noted. Not only could the time of such a contraction be observed, but its force estimated by a tracing such as we are familiar with in dealing with the arteries. This tracing indicated that rhythmical movements were constant, and, in reaching this conclusion, great care was taken to guard against sources of error. In addition to being constant, these contractions presented certain well-marked characteristics. There was a sharp up-stroke, denoting a rapid contraction; then a down-stroke, divided into two parts—at first rather abrupt, then lengthening out gradually. By comparing the tracings obtained with water at different temperatures, he arrived at the following results, which I quote from his paper:

Cold water from 32° to 60°.	*Hot water, 110° to 120°.*
1. Marked latent period.	1. Latent period absent or very short.
2. Contraction develops slowly.	2. Contraction develops rapidly.
3. Relaxation about three times the duration of contraction.	3. Relaxation about twelve to twenty-four times the duration of contraction.
4. Successive applications can only induce contraction after a period of rest. These contractions become greatly diminished in efficiency, the period of relaxation and maximal contraction being greatly reduced. *Loss in four experiments*, four fifths of the initial efficiency.	4. Successive applications followed at once by response. Efficiency of contraction greatly increased. The periods of relaxation and maximal contraction are much increased. *Gain in four experiments*, FOUR TIMES the initial efficiency.
5. Continuous application produces rapid exhaustion, the muscle becoming completely relaxed, and failing to respond.	5. Continuous application produces a high degree of contraction, broken up by secondary waves of partial relaxation and contraction.

Dr. Murray takes exception to Dr. Emmet's statement that in the application of hot water there is first dilatation followed by contraction, or that "the reaction from heat is contraction." The tracings showed no such dilatation, and the first manifestation in the tissue experimented on was always that of contraction. This also seems well established for the tissue in the arteries, in an experiment I shall describe later on.

Dr. Emmet states in illustration of his view "that the hands and arms of a washerwoman when in hot water become swollen at first, from the increased flow of blood to them, but it is a well-known fact that they afterward become markedly shriveled." In relation to this observation I performed the following experiment:

> I placed in a basin of water at a heat of 110° F. to 120° F. one hand of a lady whose white skin permitted the vascular changes to be readily observed. I then instructed her to place the other in the water, but to remove it from time to time. The two hands were compared frequently under water for two minutes when it was found that the one continually under was becoming bleached while the other was red and swollen. From this I presume that occasional exposure to the air at first interferes with the effect of the heat.

The summary of the results already given applies to the whole muscular tissue of the vagina and uterus, which is of the unstriped variety. The following experiments are designed to show the effect of water at different temperatures on the walls of the arteries themselves:

> Two jets of water, one at 40° F. and the other at 115° F., were directed at different places on the meso-metrium of a rabbit and continued for four minutes. Both sides became pale—almost white—and nothing was to be seen save two or three arterial twigs distended to their utmost by the spasm of the arterioles. "At the end of four minutes the side receiving the cold water showed signs of returning vascularity; that receiving the hot was still perfectly anæmic. Four minutes later the cold side was bright red and the hot side was still white. Eight minutes after, the cold side was an intense scarlet, the blood-vessels standing out in spiral lines all over the tissue, while the hot side had assumed the appearance it had before the experiment. Half an hour later the conditions were the same, and the observation was not continued longer."

I will take the liberty of quoting one more of Dr. Murray's experiments.

> An incision was made into a gravid uterus and the free bleeding completely checked by a small stream of water at 123° F. Cold was added to the vessel containing the water, and the temperature slowly fell to 100° F. "About one minute afterward the bleeding recommenced, at first slowly, but as the tem-

perature fell to 90° the blood escaped more rapidly. During the five or six minutes which were necessary to reduce the temperature to 50° F. the blood continued to flow as before. When 46° F. was reached the escape of blood became markedly less, and, a piece of ice being added, the temperature rapidly fell to 38° F. and then to 36° F., when the bleeding entirely ceased, the water running off colorless. In about two minutes thereafter, the stream of water still being kept up, the oozing again commenced. A morsel of ice laid on the wound was quickly dissolved and washed away in the escaping blood, and it was evident the cold had lost its influence. A sponge was dipped in water just hot enough to be barely tolerable to the hand; wrung out over the wound, the bleeding ceased at once and the wound was closed by a Péan forceps."

Hot water has become a fashionable remedy and has been used for many purposes, including, of course, the treatment of the vomiting of pregnancy and of gonorrhœa. That it has a most powerful influence over the vascular apparatus is not to be gainsaid. I think that in my case of submucous laryngitis it saved the girl an operation by diminishing the congestion and œdema, and that its use is not attended with danger is another reason for its more extended employment.

REPORT OF THIRTY-TWO CASES OF POISONING BY LOCUST BARK.[*]

By Z. T. EMERY, M. D.,
ATTENDING PHYSICIAN TO THE BROOKLYN ORPHAN ASYLUM, AND TO THE GRAHAM INSTITUTE.

In the latter part of March of the present year there occurred a sudden outbreak of illness among the boys at the Brooklyn Orphan Asylum, which was found to be due to poisoning by chewing the inner bark of the locust-tree.

The boys had obtained this bark from the yard, where the men had been stripping fence-posts. The quantity chewed or eaten—for some of them had swallowed their cuds as well as the expressed juice—varied greatly, according to the testimony of the patients; and if their statements are to be relied upon, which I somewhat doubt, the severity of the symptoms was not always proportional to the amount chewed; as, for example, the severest cases were in those reported to have used only a moderate quantity, whereas some of the lighter cases were in those, especially among the older boys, who had partaken of a large quantity—of about the size of a man's hand.

For convenience of reporting, the thirty-two cases of poisoning will be divided into three classes, according to the severity of the symptoms.

Class A, Cases I and II.—These were boys eight and ten years of age, well nourished and healthy. When I first saw them, which was about an hour after the first symptoms appeared, they were lying in a stupor, being aroused with difficulty, or when vomiting and retching. Their extremities were cold and pulseless, the heart's action was feeble and intermitting, the pupils dilated, and their faces of a dusky pallor.

They were vomiting large quantities of ropy mucus mixed with blood, and complained of pain in the epigastrium. The debility was so marked as to excite apprehension for the results.

These patients were given subcarbonate of bismuth and brandy by the mouth, and morphine hypodermically. Sinapisms were applied over the stomach, and bottles of hot water along the extremities. They made good recoveries, and were discharged from the hospital in two days.

Class B, Cases III to VIII.—These were boys from eight to twelve years old, and presented symptoms similar to those of the first class except as to severity. The pulse was feeble, the extremities were cool, the face was alternately pale and flushed; the ejecta contained ropy mucus and blood. They were able to move about the room and make known their complaints vigorously. Their respirations were regular, while those of the first class were irregular and sighing. These patients were given a mixture containing subcarbonate of bismuth ten grains, tr. opii camph. one drachm, brandy one drachm, in aromatic water, after each vomiting. Sinapisms were also applied over their stomachs. Their improvement was rapid, and they were discharged in thirty-six hours.

Class C, Cases IX to XXXII.—This class of cases was of boys of the same age as the preceding class, and presented much milder symptoms—vomiting of ropy mucus without blood, pulse not affected, face flushed, complaint of dryness of the throat, pupils dilated, extremities natural, respiration regular. Treatment was the same as in the second class. They were discharged cured the following morning, with a dose of castor-oil to move the bowels, and forcible instructions not to eat of the forbidden bark.

The symptoms of the foregoing cases were those of acro-narcotic poisoning, and lead us to the consideration of the chemical properties and physiological action of locust-tree bark, or *Robinia pseudacacia.* The literature upon the subject is meager and disappointing.

The root was examined by H. Reinsch in 1845, who found it to contain much albumin, tannin, sugar, starch, and other common vegetable principles, and *robinic acid.*

Hlasiwetz also obtained (1852) *asparagin.* Zwenger and Dronke (1861) obtained a yellow glucoside, *robinin,* which, on being boiled with acids, is resolved into sugar and *quercetin.*

Three cases of poisoning in children were reported in the "Ann. de thérapeutique," 1860, p. 64, who had eaten the root by mistake. The symptoms were like those produced by an overdose of belladonna. All three recovered, while one, who was suffering from an attack of intermittent fever, had no return of the paroxysms.

The bark of the root is said to be a tonic in small doses, and an emetic and purgative in larger doses; but I have been unable to verify the first and last statements from the literature of the subject, or from personal observation.

There have been but three recorded cases of its poisonous action, and the foregoing is offered with the view of stimulating others to report their experience with the substance.

CHLOROFORM:

ITS MORE GENERAL USE ADVOCATED AND DEFENDED.[*]

By JOHN M. FARRINGTON, M. D.,
BINGHAMTON, N. Y.

For several years past my attention has every now and then been called to articles in our medical journals designed to prejudice the profession against the use of chloroform. In fact, its use as an anæsthetic has been so extensively denounced that probably a large majority of the members of our profession have abandoned its use, or have limited it to special obstetrical cases.

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[*] Read before the Medical Society of the County of Kings, September 21, 1886.

[*] Read before the Medical Society of the County of Broome, January 4, 1887.

Writers have boldly charged that the use of chloroform in dental or minor operations was malpractice, alleging that thereby persons were subjected to unjustifiable perils, as it was maintained that nitrous oxide or ether should have been used.

Now, while I yield to no one in careful conservative views, and firmly believe that, as guardians of human life, we should take no risk in using a powerful agent when a milder one would do as well, I do protest in the strongest terms against this movement to crowd chloroform from the list of our most useful and valuable anæsthetics by unjust and unfair statements, comparisons, and records prepared by prejudiced writers.

I have been prompted to rise at this time in defence of chloroform by a recent publication upon this subject in which comparisons were made and conclusions reached by a writer who gave ample evidence to the careful reader that, while he perhaps intended to state the facts, the evidence presented was *ex parte*, and he was a prejudiced witness.

Now, with all proper deference to those who have had advantages for observation and experience greater than I, I humbly maintain that the personal experience and observation of one who has practiced medicine for thirty years is worth something, and is entitled to some weight in deciding the question under consideration.

I speak not from theory or speculation, nor from the records or statistics of those with whom I am unacquainted, but I speak of what I know, and I know of what I affirm.

The statement I am about to make may appear bold and reckless to those timid souls who have been frightened by the terrible tales of the awful mortality from the inhalation of chloroform; but I assure you I am not rash nor beside myself, but speak in perfect calmness, when I say to you that I regard the administration of chloroform by inhalation in competent hands as but little more perilous than eating beefsteak. Now and then a man gets a piece of beef in his wind-pipe and dies from suffocation, yet people are not deterred thereby from the use of beef.

For one third of a century I have from time to time witnessed the inhalation of chloroform in almost every department of the practice of medicine and surgery. From 1853 to 1857, as a student of medicine, I saw it used in all the medical colleges and hospitals of New York city and vicinity. In the summer of 1857 I witnessed its use in the hospitals of London and Paris, in operations by Erichsen, Fergusson, Civiale, and Velpeau. From October, 1857, to October, 1858, as an interne of Bellevue Hospital, I, or my assistant, used it in all of the important operations in our wards, which comprised one half of the surgical department of the hospital. In 1862–'3 I used it and witnessed its use extensively by others in the United States army service. I have observed its effects in thousands of instances during my professional life when administered by others, and I have personally used it thousands of times myself, and in almost all forms of surgical operations, as well as in a wide range of the list of constitutional diseases—in infancy and old age, in minor as well as in grave surgical operations—such as ovariotomy, strangulated hernia, lithotomy, etc.—in cases of organic pulmonary and cardiac disease, where the use of anæsthetics of any form is deemed uncommonly perilous.

Now, I will give you the result of these observations, extending over thirty-three years, and embracing, as above stated, most of the diseases and surgical operations known to our profession. In all this wide range of observation and experience I have never seen a person die from the effects of chloroform, nor have I personally known of a fatal case from its use. With one exception, I have never administered it, nor seen it used by others, in a case in which I would not willingly repeat its use were it desired. Nor have I ever known of a case where any permanent bad result followed its use. It is true that I have witnessed cases where its effects were temporarily unpleasant, and sometimes alarmingly so, of which I will fully speak.

During my first six months in Bellevue Hospital it was my duty, as senior assistant, to administer the chloroform in all the operations in my surgical division, of which Dr. James R. Wood was visiting surgeon, and my first experiences at this duty were decidedly unpleasant, for several times the patients stopped breathing when we had them on the operating-table in the amphitheatre, which was filled with medical students and practitioners, and, perhaps, when Dr. Wood was in the midst of an important operation. Some moments would elapse before respiration could be excited and our anxiety relieved. But all this occurred because I did not then know how to administer it. I had been taught to keep my finger upon the pulse, and regard the heart's action with the greatest care, but with no special attention to the respiration.

But I soon learned from personal observation that my teaching had been defective and did not cover the case, and that the most important thing to observe in the administration of chloroform was the respiration, for ofttimes when the heart gave no indications of danger the patient would stop breathing. Since then I have had but little trouble with the use of this agent. I watch the respiration closely, and, as soon as there is any modification of it, go slowly and carefully, and, while I do not disregard the pulse, but note its character, I deem it of secondary importance, unless the patient has cardiac disease.

Understand me that, while my confidence in the value and safety of chloroform is so great, I also believe that death has resulted from its use in the hands of physicians of eminence and ability, when also a pure article was used. But such instances are so rare that they should not deter us from its use, nor permit its condemnation. While I regard the use of this agent in competent hands as safe, I would not permit any one to put me under its influence unless I knew him to be experienced in its use.

May it not be safely assumed that many of the fatal cases reported as resulting from the use of chloroform were really due to other causes? For example, the incident I am about to relate, which occurred soon after the introduction of this agent into practice, gives a forcible illustration of how easy it would be to charge a result upon an agent that had nothing to do with it.

I may not be exact in giving the details of the affair, but the facts were in substance as follows:

It was somewhere in England or Scotland that it had been arranged to make the first test of chloroform as an anæsthetic in a surgical operation. The hour had arrived, the patient was upon the operating-table, the surgeon was ready, but Professor Simpson, who was to administer the anæsthetic, did not arrive. All desired to have the test made, but, after waiting a long time, it was decided to go on with the operation without the chloroform, providentially it would seem, for otherwise the unnumbered thousands of suffering humanity who during the many years that have followed since that time have been relieved from the shock and terror of operations would not have had the benefit of this beneficent boon. If chloroform had been used on that eventful day, it would probably have been ever afterward consigned to ignominious seclusion, for the surgeon had no sooner made his first incision than the patient suddenly died.

Assuming that my experience has been remarkably fortunate, and that my next case may be a fatal one, should I remain silent and allow these attacks to go on unanswered? No, I think it is the duty of every practitioner to let the truth be known, and not shrink from confronting the imputations cast upon an agent that has given only good results in his practice.

Chloroform is one of the greatest boons that has yet been discovered for the relief of suffering humanity; it has robbed grave operations of their terrors, and saved many lives by sparing the patients the shock of the operation. It has alleviated the pains and controlled the spasms of millions of our race, and it should have a fair chance to establish its virtues and not be driven from its fair fields of victory by prejudiced and timid observers and writers.

It is far more pleasant and prompt in its action than ether, and produces far less excitement to the nervous system. Practical experience and not theory is what is required to properly determine the status of chloroform among the anæsthetics. And now, without detaining you with the literature of the subject or the history of the agent under consideration, I desire to emphasize the truth of the assertions I have made by a few illustrations of many that I might give, that chloroform in my hands has been one of my best aids in the practice of my profession, and I have nothing but good to say of it.

Among the many emergencies in which I have been prompted to avail myself of this remedy when nothing else would do has been the arrest of hæmorrhage of the lungs, which was so copious that, unless promptly controlled, death was near at hand and inevitable. Chloroform, used liberally and with promptitude, stopped the cough, which at every expiration threw forth mouthfuls of blood. The patient was sure to die from hæmorrhage, and that speedily, if the cough was not arrested; and if, by the accumulation of blood-clots that seemed to fill the air-passages under the influence of chloroform, death resulted, I felt that I had given my patient the only chance for life, even if my efforts failed. But, instead of suffocation and death, which for a time appeared imminent, the hæmorrhage was controlled; then by large doses of morphine the patient was kept from coughing, and in a quiet stupor long enough for nature to close the bleeding vessels by organized clots; the patient gradually rallied and got about the house again, until another attack, which, treated promptly in the same manner, was again successfully controlled, and thus I was enabled to prolong the life of a dear sister for a whole year, when she was eighty years of age. All of the usual remedies for pulmonary hæmorrhage were used during the progress of her case, after the bleeding was controlled and during the intervals, to prevent, if possible, its recurrence. Salt, ergot, gallic acid, aromatic sulphuric acid, etc., were employed, but it was chloroform alone that repeatedly snatched her from the jaws of death, and, by its positive control of the cough, allowed the hæmorrhage to be arrested, as before stated.

Ether could not have taken the place of chloroform in this case, for the hæmorrhage was so profuse that seconds of time were of the utmost importance, and ether would not have been prompt enough. There have been three of these extreme cases in my practice in which I have controlled bleeding of the lungs in this manner. In the two other cases life was prolonged for a few days, and death came calmly to the individual, rather than by the appalling scenes which death from sudden hæmorrhage brings to all present.

I will cite another instance where chloroform was used in which most authorities would state that it should not have been used; and, while I acknowledge that my course of procedure was heroic, it nevertheless secured immunity from a fatal result in a case where the use of chloroform is alleged by authorities to be contra-indicated.

Several years ago I had charge of the case of a young man with congenital cardiac disease. Valvular insufficiency and enormous hypertrophy existed. After he grew from youth to manhood he contracted rheumatism which soon attacked the heart, and he suffered from endocarditis. He recovered from the first attack, but each successive winter brought on a recurrence of the trouble. On one occasion when he had been for weeks prostrated with one of these attacks, his heart's impulse, however, so powerful as to cause a movement of the bed with every pulsation, an agonizing toothache came on which defied all measures used to control it, and I advised extraction. The excitement of the heart's action that would be caused by an attempt to extract the tooth without using an anæsthetic was fraught with greater peril than I was willing to assume; as he was very nervous and excitable, and the slightest mental emotion caused such tumultuous action of the heart, it was likely to prove fatal.

I advised putting him under the influence of chloroform, but he and his parents were afraid of it and objected. I told the parents that the matter was in their hands, and I was not going to urge them to have done what we all knew to be perilous, but, if the patient was my son, I would use the chloroform and take out the tooth rather than witness his unrelieved suffering, which was aiding materially to wear him out; that if he died while under the anæsthetic I should feel justified that I had done the best I could to relieve him, and I would submit to the inevitable with a clear conscience. No relief came, and within forty-eight hours after they had thus objected to its use they each and all begged me to use it, and acknowledged their willingness to accept the result. Realizing the great responsibility thus laid upon me, which, however, I was willing to assume, I took with me, besides a dentist, a brother practitioner as additional support in case of an unfavorable issue.

We lifted the young man from the bed into a chair, and, departing from my usual custom, I began with the administration of ether; as the risk appeared so formidable, I was for once willing to yield to the prejudice against my old friend chloroform. But the exciting stage under the influence of ether was so increasingly great that I dared not continue its use, and, casting it aside, promptly administered the chloroform. Under its effects the excitement was steadily allayed, and he soon became unconscious. I directed the dentist to proceed with his duty. He was to remove two teeth adjoining each other so as to make no mistake in securing the real offender. He was apparently successful, and we placed the patient in bed; but when he came to consciousness he informed us that the tooth that had caused his suffering had been simply broken off, and instead of relief from, there was a great aggravation of, the previous pain.

I was greatly annoyed and disappointed, for we had had all of our mental strain for naught; yet, after a moment's reflection, I said to my companions, "Well, we came here for a purpose, and we will not leave until it is accomplished; we will try again," and we did. The dentist, who had evidently been excited, was now more deliberate, and secured the fang of the broken tooth. The second time chloroform alone was used, and he came under its influence nicely.

That young man recovered and is living to-day in active business as a druggist, but carries about with him a pathological specimen of organic cardiac disease most rare and extreme in its extent and dimensions.

In conclusion, perhaps it will be expected that I should give an account of my mode of administering chloroform, the preparation of the patient, the management of untoward symptoms, etc.

I will condense my remarks, as details are not important to those experienced practitioners who listen to me to-day:

1. I always administer it with the greatest care, especially to a new subject.

2. Avoid the ingesta of a full meal within two or three hours of its administration. If there has been a long interval without food, I prefer that the subject have a light lunch an hour or two previous to the use of the chloroform, yet I would rather give it midway between meals, for reasons which are no doubt obvious to you. You thus avoid the depression that comes from long fasting, as the stomach is not in a condition to appropriate food for some time after the chloroform has been used. And, on the other hand, the stomach is not gorged with food, a condition which is almost sure to excite nausea and vomiting, that are always unfortunate; if the food is not rejected, arrest or retardation of the digestive process takes place.

3. I do not object to giving in advance some alcoholic stimulant, but prefer that it should not be used, especially in those unaccustomed to its use, for to them it is a perturbing agent and tends to mask their natural condition. It is well to have some alcoholic or diffusible stimulant at hand, to be used subsequently if required, but I have rarely found any need for it.

4. I prefer not to administer chloroform to a woman at the time of the menstrual period.

5. It is well, as far as possible, to have the subject freed from all mental anxiety and excitement, and to be assured of care and probable safety in its administration.

6. Always stop the inhalation as soon as total insensibility is secured, and give thereafter just sufficient to keep the patient under its influence.

7. Promptly stop the use if the breathing becomes stertorous, irregular, or modified, so as to be scarcely perceptible, and, if the respiration is not spontaneously improved, excite deep inspiration by alternate pressure and relaxation upon the epigastrium. If not successful by these means in establishing respiration satisfactorily, dash cold water upon the face and chest, and resort to the usual measures to induce artificial respiration.

But, with careful watching during the administration of chloroform, such measures will very rarely be required.

In closing this hastily prepared paper, I would here express the ardent hope that we may hear from many others who have not thus far published their experience with the use of chloroform; that we may have reports that will more fully represent the voice of the profession. One side alone seems to have spoken; let us hear from the other.

ASTHENOPIA
COINCIDENT WITH, AND LARGELY DEPENDENT UPON, UTERINE AFFECTIONS.

By CLIFTON S. MORSE, M. D.,
NEWARK, OHIO.

While having observed for several years that asthenopia was a common attendant upon uterine affections, I have generally been inclined in the past to consider the occurrence as a mere coincidence. A few recent cases, however, possessing very marked characteristics, have led me to recognize the direct relationship existing between uterine and ocular affections. Upon endeavoring to look up the literature of the subject, I found it entirely ignored in most works where one would naturally expect to find it, and in most other instances, where my search was rewarded, the mention is of the most meager and unsatisfactory sort.

In a recent paper, published in the "New York Medical Journal" of February 13, 1886, Dr. Thomas R. Pooley enters into the subject at some length; and, by comment, quotation, and case recording, has given a very interesting and instructive article. Yet, while he recognizes asthenopia as attendant upon, and more or less resultant from, uterine affections, he does not place any degree of stress upon the occurrence of what I shall term "*menstrual asthenopia.*" This condition, either with or without ametropia, will be found extremely common, annoying, and quite intractable to ordinary treatment. Its peculiar characteristics are plainly depicted in Cases III, IV, and V.

The relationship existing between uterine and ocular diseases has long been "coldly" recognized by the profession; still, very little real attention has been paid to it until recently, and the scientific investigation of the subject has not even yet been taken up with any amount of vigor or enthusiasm. Three or four widely scattered contributions comprise, perhaps, all its recent and reliable literature.

It is not my object to enter into a minute discussion of the pathology and therapy of this condition, only in so far as pertains to the ocular symptoms, and is rightly within the domain of ophthalmology. At the same time, I fully recognize the ocular affection in its true relationship—of a very evident effect resultant from an oftentimes obscure uterine cause.

With these facts before us it must be admitted that the ophthalmologist can do little to alleviate and scarcely anything toward the cure of such patients where the condition of the refraction is emmetropic or only slightly ametropic. The gynæcologist must of necessity put his finger in the pie. While the ophthalmologist may be of considerable assistance, especially in pointing out the peculiarities of the case in reference to its ætiology, good results can be expected only from careful conjoined treatment of the ocular and uterine symptoms. To add my mite to the evidence already presented to the profession, I offer a few cases which I trust will go a trifle toward illustrating the relationship in its several phases:

Case I.—Widow, aged thirty-three. Has suffered for years with intense supra-orbital neuralgia, invariably intensified by close visual effort. At times also spontaneous and periodic. Occasional chromopsia. Fundus normal. Hyperopic astigmatism ·50 D., axis 90°; with these lenses V. = $\frac{20}{20}$. No insufficiency. Glasses, however, failed to relieve the asthenopic symptoms, although making her vision normal. She was badly nourished and anæmic. Upon inquiry, it was found that she had been suffering with some sort of uterine affection for about ten years. Her asthenopia was first troublesome a year following. She particularly stated that her ocular trouble was greatly intensified during the menstrual flow. By my advice she consulted and placed herself under the treatment of a competent colleague. Under his care she has so far improved as to be able to use her eyes for any reasonable length of time with entire comfort, *except* during the menstrual epoch; at this time she suffers just about as badly as ever. She is very grateful, however, for the periodic relief afforded, and we have about concluded to be satisfied with that degree of success.

Case II.—Single, aged twenty-three. Has been troubled for years with supra-orbital pain, painful vision, photophobia, and persistent headache. These conditions are very much worse during the menstrual flow. The patient is strong and well nourished. Fundus normal. No insufficiency. Hyperopic astigmatism O. D. = ·50 D.; O. S. = ·25 D., axis 90°. After correction V. = $\frac{20}{20}$. Glasses failing to effect a cure, inquiry revealed her as a sufferer from dysmenorrhœa, with a catarrhal discharge of several years' standing. She kindly took my advice and had her uterine difficulty "looked into." Very good results have followed. The asthenopia has almost entirely disappeared, and, although it troubles her during menstruation, the long inter-menstrual rest has amply satisfied her.

Case III.—Widow, aged thirty-four. This patient is of the well-nourished, round, and rosy sort. No insufficiency. Fundus normal. The correction of a hyperopia of 1 D. brought her vision to $\frac{20}{20}$. However, for a few days before and after, and during the menstrual flow, her eyes are in a truly pitiable condition. At these times her asthenopia is of a most aggravated form, all visual effort being attended with intense supra-orbital pain and photophobia, followed by conjunctival hyperæmia. When at its maximum of intensity she is obliged to remain in a darkened room during daylight, and wait till it subsides. However, shortly after the flow has ceased her eyes become better and she has a period of comfort and rest. I directed her to the office of one of my gynæcological friends, with a rather surprising result. No uterine trouble could possibly be found. No discharge. Nothing, in fact, but the most tantalizing health. No treatment being possible, the case remains as found.

Case IV.—Single, aged eighteen. Has been troubled with supra-orbital neuralgia, photophobia, and persistent headaches at each menstrual epoch since her fifteenth year. She consulted me for the purpose of obtaining an order for glasses to correct a presumed defect of refraction. Vision was found to be $\frac{20}{20}$. Fundus normal, and no insufficiency. I examined her eyes several times during the menstrual flow. The retinal veins were very full, otherwise everything as before. There was increased intra-ocular tension, however, which was relieved somewhat by the alternate instillation of eserine and pilocarpine. No lasting effects were produced by any treatment. There is no history of uterine disease. Two sisters of the patient are similarly affected.

Case V.—Single, aged twenty-five. Has been troubled with a formidable array of asthenopic symptoms for years, being much intensified at the menstrual epoch. With cyl. — ·50 D., axis 180°, V. = $\frac{20}{20}$. Her family physician has been treating her for some time for a catarrhal discharge, perhaps non-specific, which he says he has entirely cured. Her asthenopia is very little lessened in severity, although its character is materially changed. While formerly she suffered more or less at all times, now there is very little inconvenience except at the recurrence of the monthly flow. Ophthalmoscopic examination revealed nothing abnormal, neither was there insufficiency. Here, also, I found increased intra-ocular tension, and the near point moved farther away. Neither eserine nor pilocarpine produced any lasting good effect.

A large number of cases have come under my notice within the past few years resembling the cases herein recorded, and varying greatly in intensity and persistence. None, however, were more pronounced in character than the examples submitted. I could extend the record very considerably, yet the additional evidence gained thereby would hardly justify the space occupied. It would doubtless add very materially to our knowledge of "menstrual asthenopia" if the general practitioner would contribute to the subject from his rich experience, as the attention of the ophthalmologist is not generally called to such cases unless there is evident ametropia. The treatment is usually very unsatisfactory. The uterine trouble should receive prompt attention, conjoined with the correction of any existing ametropia. As to "menstrual asthenopia," uncomplicated with any ametropia or evident uterine disease, I have never yet seen a case very much benefited by treatment.

N. W. Cor. Church and Third Streets.

Correspondence.

LETTER FROM VIENNA.

Syphilitic Tabes Dorsalis.—A Case of Gunshot Wound of the Thorax and Abdomen.

Vienna, *December 27, 1886.*

An interesting discussion as to the existence or non-existence of syphilitic tabes dorsalis took place at one of the recent meetings of the Imperial-Royal Society of Physicians of this city, which is notable from the fact that such prominent physicians as von Bamberger, Nothnagel, Meynert, Benedikt, and others took part in it. The occasion was the case of a patient shown by Dr. Hebra, the dermatologist. A man, twenty-eight years old, had a chancre on the penis in February last. In the middle of March a macular syphilide appeared on the right side, and there was iritis. These manifestations disappeared in four weeks, the patient having been treated with injections of corrosive sublimate, inunctions of mercurial ointment, and the use of atropine. There had been no syphilitic manifestations on the mucous membranes. About the middle of July the patient complained of headache and giddiness; in spite of the use of potassium iodide, these symptoms increased and the man began to complain of weakness of the lower limbs. On the 3d of September Dr. Hebra observed that locomotor ataxia was present, but the patellar reflexes were still unchanged, although on the 4th they were no longer present. The patient fell down when he shut his eyes, and complained of a feeling of constriction round his waist and of lancinating pains. Eight days later he was no longer able to walk, there was complete paralysis of the bladder and intestines, and he was losing flesh constantly. On the 21st of September he had an apoplectoid attack; the right arm and the parts supplied by the right facial nerve became paretic, and both lower limbs were totally paralyzed. By the 24th, after energetic treatment with mercurial ointment and potassium iodide, the paralytic symptoms had partly disappeared, and by the middle of October nothing remained of them but traces in the parts supplied by the facial nerve. On the 5th of October the patient was able to attend to his usual business. The only symptom still present was a feeling of numbness of the right side of the body. In all, two hundred grammes (about 3,000 grains) of mercurial ointment and a hundred grammes (about 1,500 grains) of potassium iodide had been used.

Dr. Hebra remarked that all these symptoms were to be looked upon as belonging to tabes, and added that the course of the case, from the time of infection to the recovery, was proof of a possible connection between tabes and syphilis. The inunction treatment had been of great value, although most authors had observed recovery only after the use of potassium iodide.

Professor von Bamberger thought that the succession of phenomena described represented, indeed, an affection of the central nervous system, but that that affection was not to be looked upon as a tabes dorsalis; many of the symptoms that were of constant occurrence in tabes—such as the pupillary symptoms, disturbances of sensibility, etc.—were missing, while some of those that were present—such as the attacks of giddiness and the hemiplegic phenomena—were not observed in tabes. Surely, there could have been no gray degeneration of the posterior columns of the spinal cord, for that condition would never have been recovered from. The case could neither be considered as one of tabes dorsalis, nor taken as a proof of the curability of tabes, or of the connection of tabes with syphilis. Tabes was nothing else than that affection of the spinal cord in which the posterior columns underwent gray degeneration: hence we should speak, in such a case, of syphilitic disease of the nervous system. If tabes was accidentally present in an individual suffering with syphilis, neither mercury nor potassium iodide was of any value whatever; on the contrary, they were both injurious. If syphilis was to be considered a cause of tabes, it was strange that the latter disease was so seldom met with in prostitutes. At the most, the case under consideration could only be looked upon as one of locomotor ataxia.

Professor Nothnagel looked upon it as a case of myelitis and encephalitis of syphilitic origin.

Professor Benedikt said that the difference between his opinion and Professor von Bamberger's lay in the fact that, whereas the latter restricted the term tabes to cases of gray degeneration of the posterior columns, he applied it to various affections of those columns.

At the same meeting, Professor von Mosetig referred to a very rare and interesting case of gunshot wound of the stomach. A man, thirty-one years old, tried to commit suicide by shooting himself with a pistol in the left side of the chest. The ball entered between the fourth and fifth ribs and passed to the right side of the thorax, perforating the diaphragm, the left lobe of the liver, and the stomach; then it took a backward course, and was found between the eleventh and twelfth ribs. Although there were two holes in his stomach, the patient lived twenty-three days, and on the day of his death he ate and digested half a fowl. The speaker remarked that it might be supposed that adhesions had soon formed in the neighborhood of the perforations in the stomach, and that these adhesions had possessed sufficient resistance to prevent the contents of the stomach from passing into the peritoneal cavity. The abdomen was neither distended nor painful, so that the occlusion of the stomach was sufficient. On the thirteenth day after the injury, the first indication of sepsis was observed, when a hæmorrhagic collection in the thorax became fœtid. It was suggested that the gastric juice had gradually digested the occluding exudate, after which the matters in the tract of the wound were swept away, so that the contents of the stomach came in contact with those of the thoracic cavity and gave rise to septic decomposition in the hæmatothorax. Another interesting feature bearing upon this supposed sequence of events was the fact that the patient, having been anæsthetized for the purpose of having his thoracic cavity washed out with a solution of potassium permanganate, vomited a large quantity of this solution after coming out of the anæsthesia, showing that there was somewhere a communication between the thoracic cavity and the alimentary canal. As the patient had already been under treatment for sixteen days, it might also be suggested that the bullet had come in contact with the œsophagus in its passage across the thorax, or that there was at first no perforation of the œsophagus, but that an opening in that organ formed subsequently, its wall having been simply furrowed by the passage of the ball, as sometimes happens in cases of furrowed gunshot wounds of the great arteries, in which fatal hæmorrhage does not occur until many days after the reception of the injury.

Battey's Operation in Paris.—The Paris correspondent of the "Lancet" says: "After meeting with considerable opposition here when first made known, Battey's operation is gradually coming into favor, and, though we can not as yet compete in surgical activity with Liverpool, a number of speakers were able to give their experience of the operation at the recent discussion at the Société de chirurgie. M. Terrier mentioned the case of a woman who, manifestly hysterical, suffered from intolerable pains in the ovaries at the menstrual periods. No relief being obtained by ordinary means, and life being a misery, these organs were removed last February. The right ovary caused no difficulty, but the left was so bound down by adhesions that it could only be extracted piecemeal. Since the operation there has been but insignificant malaise at the catamenial periods, which are perfectly normal. The hysterical condition, although it remains, appears amended; there are no longer any abdominal pains, and the general health is good. This is the second success of the kind obtained by M. Terrier. M. Lucas-Championnière has also performed the operation in two cases; one of his patients died three days after the operation; the other was relieved of her symptoms, and at the same time cured of bad temper. Before the operation she easily became angry at trifles, whereas she is now quite calm. M. Monod said that he also had been successful in two instances, and M. Pozzi was able to indorse the treatment by one operation."

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NEW YORK, SATURDAY, JANUARY 22, 1887.

THE REPORT OF THE SURGEON-GENERAL OF THE ARMY.

The report for the fiscal year ending June 30, 1886, prepared by Acting Surgeon-General J. H. Baxter, is a document of very moderate compass, embracing only 111 pages. The health of the army is one of the more important subjects with which it deals, and it is satisfactory to learn that there were fewer admissions to sick-report than in any previous period of a year within the history of the department, and also that the death-rate was lower than in any former year. It is somewhat remarkable that, of the thirty-two cases of diphtheria occurring in the whole force, twenty-five should have been reported from the single post of Fort Assinniboine, in Montana. The medical officer in charge, Assistant Surgeon Burton, is quoted as "unable to specify any local condition to account for the sudden development of this severe sickness." The admissions for venereal diseases showed a relative as well as an absolute decrease from those for the preceding year (fifty-five against sixty-five in a thousand), with the ratio slightly lower among the colored troops than among the whites.

That our exemption from actual warfare during the year was almost complete is strikingly indicated by the fact that there were only twenty-seven deaths from gunshot wounds. It is melancholy to reflect that, of the injuries which gave rise to this small number of deaths, two were homicidal and nine suicidal. Eight of the deaths are reported as due to "accidental and other shooting," and the same number as resulting from wounds received in action. The statistical data pertaining to the work of the medical corps are given briefly, but with sufficient particularity.

Dr. Baxter very properly calls attention to the desirability of the publication of a catalogue of the museum. Such a catalogue, with proper illustrations, would make, he says, three large volumes. The third medical volume of the "Medical and Surgical History of the War of the Rebellion," the last of the series, it is stated, has been delayed in the printing by the pressure of current work at the Government Printing Office. It seems that the manuscript was ready last February. Dr. Baxter urges the appropriation of money for extra-duty pay to enlisted men detailed as cooks and nurses at post hospitals, also for the remuneration of those who have rendered such services gratuitously during the year. He expresses the hope that the bill for increasing the efficiency of the hospital stewards of the army will soon become a law, although he expresses the conviction that the rate of pay it allows this valuable class of non-commissioned officers is too low.

The accessions to the medical corps show a continuance of the satisfactory conditions that have obtained in the past. Out of seventy-six candidates, fifty appeared for examination, of whom seven were found competent, eighteen were rejected, and twenty-five withdrew after a partial examination. Of the seven successful candidates, five have been appointed assistant surgeons, and two are awaiting vacancies.

THE COMING MEETING OF THE STATE SOCIETY.

In another part of this issue we publish the preliminary programme for the eighty-first annual meeting of the Medical Society of the State of New York, to be held in Albany on Tuesday, Wednesday, and Thursday, the 1st, 2d, and 3d of February. The announcement states that the list comprises the titles, or the names of the authors, of all the papers offered up to January 7th, and adds that it is probable that other valuable articles will be presented. We do not question the probability alluded to, but it may be said of the programme as it stands that it gives promise of abundant material for the three days' work, and that of an excellent character. Indeed, the list is so long that the utility of the resolution to be introduced limiting the time for the reading of any one paper to twenty minutes can not be doubted. That length of time ought to suffice for an author to give in full those portions of a paper on which the discussion may be expected to turn, and the *pièces justificatives*, together with all other matter not essential to a due understanding of the writer's views or of the facts on which he founds them, may well be left for insertion in the society's annual volume.

But it is quite as much the diversity of the subjects to be treated of as the intrinsic value of the papers that is likely to prove attractive. No one special branch of medicine overshadows the others, and all the specialties combined do not, as has sometimes happened, threaten to swamp general practice. Nor is there any evidence in the programme of undue prominence given to men from the large cities. The smaller communities are fairly represented, and it is particularly gratifying to find that several distinguished members of the profession in England are to contribute, including Sir T. Spencer Wells, Mr. Lawson Tait, and Dr. Sydney Ringer, all of whom are honorary members of the society. Of late years our countrymen have had ample opportunities of being heard at the meetings of the British Medical Association and of other foreign societies, and it is graceful in the English gentlemen we have mentioned that they have shown a willingness to embrace like opportunities offered to them by us. It is well known to how great an extent the work of preparing things for such a meeting falls upon the president, and, judging from the programme thus far settled upon, we feel it but just to say that the present president, Dr. Ely, of Rochester, has exerted himself to good purpose.

MINOR PARAGRAPHS.

THE GOLDSMITH LECTURES.

We would call our readers' attention to the announcement, which will be found in this issue of the Journal, of the Middleton Goldsmith Lectures, to be given under the auspices of the

New York Pathological Society. The first course, to be given next week, by Dr. M. Allen Starr, is on a subject about which a good deal has been published of late, but concerning which there is no doubt that the lecturer will find much to present that will not only prove in a measure novel, but also go far toward enabling the busy practitioner to study the current literature of the subject to better advantage. The Cartwright courses no longer remain the only lectures of the sort to be heard in New York, and it is to be hoped that some of our other organizations will add still further to the list.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 18, 1887:

DISEASES.	Week ending Jan. 11.		Week ending Jan. 18.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	10	10	16	5
Scarlet fever	49	9	44	7
Cerebro-spinal meningitis	8	8	6	6
Measles	537	61	632	86
Diphtheria	122	47	130	38
Small-pox	0	0	6	2

The Medical Society of the County of Kings held its sixty-sixth annual meeting last Tuesday evening, and elected officers for the ensuing year as follows: President, Dr. W. Wallace; vice-president, Dr. A. R. Matheson; secretary, Dr. C. De la Vergne; assistant secretary, Dr. C. N. D. Jones; treasurer, Dr. W. B. Chase; and librarian, Dr. J. H. Hunt.

The Alumni Association of the Woman's Hospital held its third meeting on Wednesday of this week, at the New York Academy of Medicine. The attendance of members from various parts of the country was satisfactorily large, and many of them contributed papers to the proceedings. Those of the out-of-town members who arrived in New York on Tuesday met the members of the New York Obstetrical Society at the house of Dr. Thomas Addis Emmet in the evening, where they were handsomely entertained. On Wednesday evening a reception in honor of the Alumni Association was given by Dr. James B. Hunter, at the University Club.

The Long Island College Hospital.—It is announced that the interest of a sum of money bequeathed by the late Dr. Dudley is to be expended annually in a gold medal to be awarded to the author of the most meritorious graduation thesis.

The Northern Dispensary.—At the recent annual meeting, Dr. S. B. W. McLeod and Dr. Gerardus H. Wynkoop were elected on the board of trustees.

The Hospital Saturday and Sunday Collection.—The whole amount reported as received up to the time of our going to press is $47,328.16.

A Medical Composer of Music.—The "Lancet" states that a piece of sacred music has recently been composed and performed in private by one of the professors of the medical faculty of Madrid, which is highly spoken of by the press of that capital.

Medical Teaching in Vienna.—The Austrian Minister of Education, Herr von Gautsch, some time ago asked the Medical Faculty of Vienna what measures ought to be taken concerning the great number of medical students at the university, that state of things being especially prejudicial to practical instruction—instruction by demonstration. The Minister asked whether it would not be well to establish a *numerus clausus*, preference being given to students for whom there was the greatest necessity to go to Vienna. The *Professoren-Collegium* declared unanimously against the proposition, and the decision of that learned body was received with great satisfaction. One of the distinguished members of the *Collegium*, Professor Billroth, who had declared himself in favor of the *numerus clausus* to a certain degree, was invited to take part in the deliberations of a committee appointed for the purpose by the *Collegium*, but declined. He had already given close attention to the question by himself, and had published a brochure on it, entitled "Zum Lehren und Lernen der medicinischen Wissenschaften." This publication led to a general discussion of the matter, also to the appearance of another work, by the director of the Vienna Poliklinik, Professor Johann Schnitzler, "Zur Reform des medicinischen Unterrichts," taking ground against the *numerus clausus*.

In another communication Herr von Gautsch called the attention of the *Professoren-Collegium* to the matter of the institute of *Privat-Docenten*, on the ground that he was anxious lest the institute should suffer in importance if the possession of the *venia legendi* was made too readily attainable. This communication was referred to a committee consisting of Professor Wiederhofer, Professor Meynert, Professor Kundrat, and Professor Nothnagel. The committee proposed to admit in future only those competitors for the *venia legendi* who had occupied themselves with one of the cardinal branches, or, in exceptional cases, those who had given evidence of extraordinary talent and scientific merit. The committee's report to this effect gave rise to an eager discussion in the *Professoren-Collegium*, the representatives of the special branches opposing the measure, and pleading warmly for the importance of cultivating the specialties. The report was not adopted, and the sense of the meeting was declared to be that the laws now in existence were quite sufficient to protect the university against a superfluity of teachers, provided they were enforced with due severity and persistency.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 9, 1887, to January 15, 1887:*

Baily, Joseph C., Lieutenant Colonel and Assistant Medical Purveyor. Ordered from the Department of the East to New York city to take charge of the medical purveying depot in that city, relieving Captain Henry Johnson, medical storekeeper, from duty as acting assistant medical purveyor. S. O. 9, A. G. O., January 12, 1887.

Brown, Harvey E., Major and Surgeon. Granted leave of absence for six months on surgeon's certificate of disability, with permission to leave the Division of the Missouri. S. O. 9, A. G. O., January 12, 1887.

Corson, J. K., Captain and Assistant Surgeon. Ordered to Fort Cœur d'Alène, Idaho Territory. S. O. 227, Department of the Columbia, December 31, 1886.

Munn, C. E., Captain and Assistant Surgeon. Ordered to Fort Canby, Washington Territory. S. O. 227, Department of the Columbia, December 31, 1886.

Banister, J. M., First Lieutenant and Assistant Surgeon. Ordered to Fort Cœur d'Alène, Idaho Territory. S. O. 227, Department of the Columbia, December 31, 1886.

Barnett, Richards, Captain and Assistant Surgeon. Leave of absence further extended six months on account of sickness. S. O. 9, A. G. O., January 12, 1887.

Wilson, George F., First Lieutenant and Assistant Surgeon. Leave of absence extended twenty days. S. O. 9, A. G. O., January 12, 1887.

Society Meetings for the Coming Week:

Monday, *January 24th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement

Tuesday, *January 25th:* New York Dermatological Society (private); New York Academy of Medicine (Section in Laryngology and Rhinology); Buffalo Obstetrical Society (private); Medical Societies of the Counties of Onondaga (semi-annual—Syracuse) and Putnam (quarterly), N. Y.; Boston Society of Medical Sciences (private).

Wednesday, *January 26th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Auburn, N. Y., City Medical Association; Berkshire, Mass. (Pittsfield), and Middlesex, Mass., North District (Lowell) Medical Societies; Gloucester, N. J., County Medical Society (quarterly); Philadelphia County Medical Society (conversational).

Thursday, *January 27th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private); Cumberland, Me., County Medical Society (Portland); Pathological Society of Philadelphia.

Friday, *January 28th:* New York Academy of Medicine (Section in Materia Medica and Therapeutics); Yorkville Medical Association (private); New York Society of German Physicians (private); New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

OBITUARY NOTES.

Edward Livingston Youmans, M. D., died on Tuesday, the 18th inst., of chronic pulmonary disease, in the sixty-seventh year of his age. Professor Youmans was a graduate of the Medical Department of the University of Vermont, but was never a practitioner of medicine. From an early period of his life he was an ardent student of the natural sciences, and for a time he held the chair of chemistry in Antioch College. He was the author of a number of works on scientific subjects, all of which showed great skill in presenting facts and expounding their connection with natural laws. In particular, when the new chemical nomenclature and notation came to be taught in our medical schools, but a few years ago, those members of the medical profession who had obtained their knowledge of chemistry from the same institutions in former years found themselves somewhat at a loss to comprehend the current literature of the science; and it was very largely with the aid of one of Professor Youmans's books that they were enabled to learn the new order of things without too great a sacrifice of time, and so get over the difficulty. Not only by his books, but also as the founder and senior editor of the "Popular Science Monthly," the deceased was widely known as a promoter of science, and the part which he bore in inducing his countrymen to study the writings of Darwin, Tyndall, Huxley, and Spencer can scarcely be overstated. For the last year or more of his life, his failing health compelled his abandonment of active work, but his sufferings never diminished the amiability of his character or clouded his understanding; to the last, he was a clear-headed and loyal adviser to those who sought his judgment on scientific matters.

Christopher R. McClellan, M. D., of Brooklyn, died on Thursday, the 13th inst. The deceased was a graduate in medicine of the University of Maryland, one of the consulting physicians to St. Peter's Hospital, and a member of the New York Academy of Medicine and the New York Physicians' Mutual Aid Association.

Frederick C. Newton, M. D., of Chicago, died on Wednesday, January 12th, at the age of twenty-eight. He was born in Milford, N. H., was educated at the Phillips Academy, Andover, Mass., spent one year in Dartmouth Medical College, and was graduated from the Medical Department of the University of the City of New York in 1882. He had been for some time assistant demonstrator of anatomy at the College of Physicians and Surgeons of Chicago. His death was due to diphtheria contracted from a child that he was attending, who, it is said, bit him.

Letters to the Editor.

A CAUTION AS TO THE USE OF ANTIPYRINE.

324 East Fiftieth Street (Beekman Hill),
January 10, 1887.

To the Editor of the New York Medical Journal:

Sir: Perhaps you can spare space for a word of caution in the use of antipyrine from one who has used it very extensively in private and dispensary practice.

It has happened to me to watch three very severe attacks of collapse following its use. The first of these occurred very early in my acquaintance with the drug. I was hastily summoned to the bedside of a patient, a man forty years old, with acute articular rheumatism, and under the care of another physician. Antipyrine had been given "in the way the doctor ordered," and the patient was in collapse. I administered hypodermics of morphine and of whisky, and made free use of friction and heat, with the result of seeing the patient revive. I came away impressed with the idea that the fault rested with the physician in not giving sufficiently careful directions as to the avoidance of this danger.

I went along in the use of the drug, happy in the consciousness of superior care upon my own part until comparatively lately, when, two such occurrences happening with my own patients, I have been forced to modify my opinion.

These were both cases of typhoid fever in a boy and a girl aged, respectively, ten and eight. In both, the attendants (parents) of the patients were intelligent, and belonged to the middle walks of life. The cases were similar: a history of the latter will suffice. In ordering the antipyrine I had taken great pains, as usual, to impress upon the attendants that, though rise of temperature was an indication for its use, this must at all times be governed by the strength of the heart and pulse. Ten grains of the drug were to be administered every three, four, or five hours, according to the degree of pyrexia, and, if this was followed by a fall in pulse *power*, aromatic spirit of ammonia was to be given and the whisky increased.

At the end of the second week I was hastily summoned about midnight to the bedside of this patient. I found her in a state of complete collapse. The body temperature was subnormal, the pulse almost imperceptible, and the heart's action slow and labored. She was completely unconscious to all sensory impressions. I at once administered an eighth of a grain of morphine hypodermically, and then considerable doses of whisky and ammonia. I had her wrapped in hot blankets, beneath which three others assisted me in keeping up incessant body friction. I think it must have been fifteen or twenty minutes before the patient showed signs of revival, this being initiated by a long-drawn sigh. She ultimately revived, and made a somewhat tardy recovery from her fever.

Careful and persistent inquiry into the cause of the collapse brought forth very grudgingly the facts. The temperature running quite high, and the usual dose failing to lower it rapidly enough, the mother, in her anxiety, had administered numerous further doses of the drug within short periods. After two hours the temperature began to fall, the patient first becoming comfortable, then sleeping, and finally passing into this stage of collapse, the change being rapidly noticed by the anxiously watching mother.

The conclusions to be drawn are: The drug, like many others, after repeated administration, may in the usual doses act less rapidly. The attendants are to be specially cautioned that at such times the remedy must not be pushed too rapidly, but, if the rise of temperature is considered a dangerous one, the physician is to be summoned.

George Dalton Hays.

MASTURBATORY INSANITY.

Bloomingdale Asylum, New York, *January 1, 1887.*

To the Editor of the New York Medical Journal:

Sir: In the Journal of this date, in the report of the meeting of the New York Neurological Society, it is stated that "Dr. Noyes said the case referred to by the author [Dr. Spitzka] was the only one in the Bloomingdale Asylum in which a cure had been effected, and he attributed recovery in that case to transferring the patient to a farm, where his mode of life, including diet, was changed, and for the better." What I had intended to make distinctly understood was that, of the cases referred to by Dr. Spitzka as having been treated at Bloomingdale Asylum, only one had come under my personal observation (in a service of eleven months), and that this patient had recovered; and I attributed much of the good accomplished in his case to his having been transferred to the Bloomingdale Farm, where he was able to spend almost all his time outdoors, and, with plainer diet and plenty of work that he was interested in, rapidly recovered. My remarks had special reference to the methods of treatment spoken of by Dr. Parsons. Dr. Spitzka himself spoke of other cases of his that had been treated here and had ended in recovery, but none of these had fallen under my immediate observation.

Respectfully, William Noyes.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of December 22, 1886.

Dr. L. A. Stimson in the Chair.

Notes on the Operative Closure of a Large Laryngeal Fistula.—Dr. Robert Abbe reported a case in which he had successfully operated for the closure of a laryngeal fistula, and gave the following history:

In November, 1885, a man, aged forty-five, presented himself for treatment of an opening in the side of his larynx immediately above the vocal cords, into which the end of one's thumb could be thrust.

In the month of April preceding he had tripped while rising from his cobbler's bench with a shoemaker's knife in his hand, and had so stumbled that he fell upon the point of the knife, which was thrust well into the thyreoid cartilage on the left side. It was an ugly gash and bled severely. He was carefully treated in the Bridgeport Hospital at once, a tracheal tube was inserted, and he said that it was worn for a month. The hole in the cartilage was just above the vocal-cord attachment, and laryngeal inflammation probably followed and impaired his breathing. After another month an operation was performed to close the fistula by suturing, but was ineffectual. He then came to New York and was subjected to five more attempts at closure by his physician at home. The methods varied. Sometimes silver-wire sutures were used, after paring the edges; sometimes silk. Twice were the hare-lip pins and figure-of-eight suture used. But after each operation mucus and discharges burst the wound open and left him more desperate than before. The successive parings of skin and cartilage had resulted, with what ulcerations had occurred between times, in the sacrifice of a considerable portion of the left lateral half of the thyreoid cartilage, the entire gap being nearly three quarters of an inch, though the opening in the cartilage proper was five eighths of an inch in diameter. The edges of the fistula were cicatricial, and induration extended half an inch beyond the opening. Through this great gap one could get a most extraordinary view of the vocal cords in action. The anterior ends were attached just within the lower edge of the fistula on the median side, and when at rest the cords fell flat on either side and were lost in the mucous membrane. On attempted phonation, they sprung into view and vibrated at an angle of 30° with the horizon, afterward falling back to nearly the horizontal position. This movement of the cords to assume this angle with the horizon when the patient was erect the speaker had not found noticed in such authors as he had consulted. Attempts to speak or make audible sounds when the fistula was uncovered were futile. All he could do was to produce a fizzing or buzzing note like the sound one might make by blowing through a single reed of a reed-organ. When, however, a flat pad covered the fistula completely, he could phonate perfectly, though with a slightly husky tone. It was decided that by the following not very complicated plastic operation the fistula could be closed, if preliminary tracheotomy was done to prevent expulsive efforts at coughing from blowing mucus and air through the sutures.

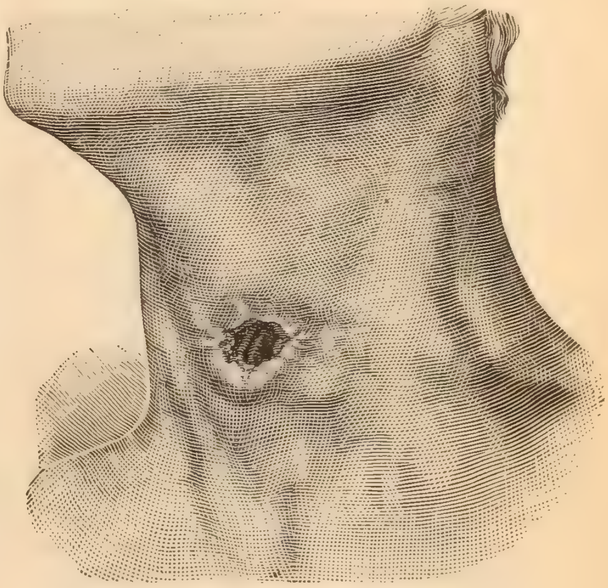

Fig. 1.

On November 13, 1885, Dr. Bangs assisting, the patient was etherized and tracheotomy done at the two upper rings. When the patient breathed well through the tube the glottis was stopped through the fistula with a sponge attached to a string drawn out through the mouth.

The edges of the fistula were thoroughly pared. A broad elliptical space was then included between two incisions, *a b*, being somewhat wider than the fistula and extending obliquely downward on the patient's neck. A part of the included skin below the fistula was dissected up so as to make a flap hinged on its upper edge, which, when turned over, more than covered the hole. The cuticle was then removed from the part of this surface not wanted to cover the hole, and the rest of the elliptical space made raw for the reception of the overturned flap. The latter was then stitched over the fistula by two rows of fine continuous catgut—one row, on the edge of the orifice, tacking the surface of the flap at the circle of denudation; and the second, on the outer edge of the flap, fastening it to the outlying cellular tissue.

The skin on either side of the neck was then undermined and slid over the flap mentioned so as to meet directly over its center. A lateral slash, one inch and three quarters away, was necessary to relieve tension, and served to admit a drainage-tube.

Antiseptic compresses were applied and the sponge was removed from the larynx by the mouth. The patient made a very comfortable recovery, with primary union throughout. The tracheal tube was removed on the fifth day, and he was allowed to talk at the end of a week.

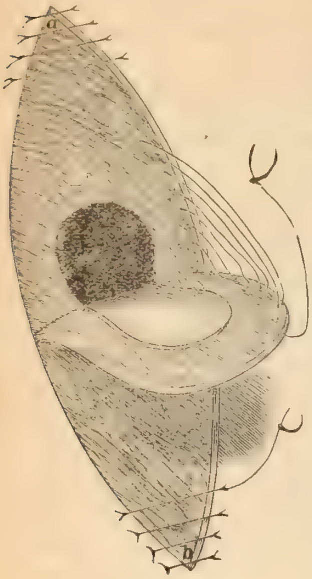

Fig. 2.

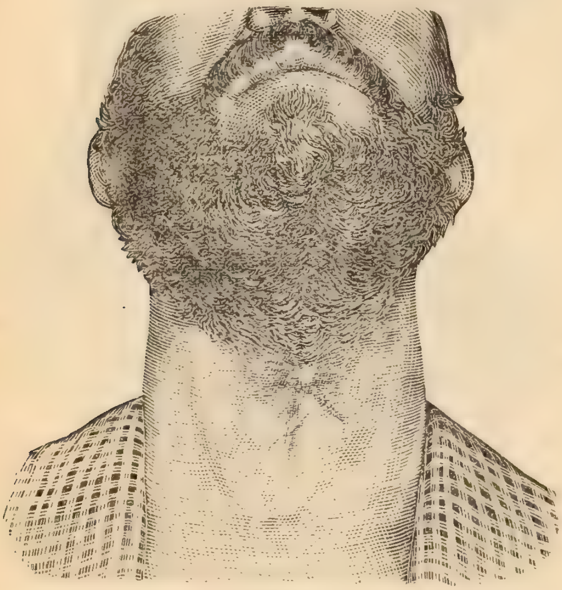

Fig. 3.

He left the hospital with a perfectly solid larynx and excellent phonation, which had been maintained.

Dr. Abbe remarked that it seemed to be the general impression that this class of cases could not be cured.

The Chairman asked to what cause this supposed impossibility was attributed; whether it was simply a mechanical one.

Dr. Abbe thought that it was owing to the force of the air in respiration which broke down the union.

Cicatricial Stricture of the Œsophagus.—Dr. H. B. Sands presented a patient eleven years old whom he had treated for a cicatricial stricture of the œsophagus more than three years previously, and whose case he had made the subject of a paper read before the society January 22, 1884. (See "N. Y. Med. Jour.," Feb. 9, 1884, p. 153.) As she was now on a visit to New York, he availed himself of the privilege of showing her to the members, and of demonstrating the passage of large bougies through the œsophagus at the site of the former stricture, which, when the patient first came under his notice, was so small that only instruments of filiform size could be introduced. After a number of operations of internal œsophagotomy had been performed, however, the child left New York, in November, 1883. She was then entirely relieved of dysphagia, and a bougie No. 40 F. could be readily passed into her stomach. When the history of her case was related before the society, some doubt was naturally felt regarding the duration of the improvement, which, it was believed, would be only temporary. The speaker was therefore interested in stating certain facts connected with her past and present condition. After the cutting operations had been discontinued, the patency of the œsophagus had been tested with bougies at intervals of increasing lengths until May, 1885. Between that date and October, 1886, a period of seventeen months, no instrument had been used; and when at the end of that time the caliber of the œsophagus was examined, a bougie No. 40 could be readily passed beyond the site of the former stricture. Within the past week the speaker had introduced a bougie of that size, and he now demonstrated before the society the easy passage of a bougie No. 38 F. No. 40 was not tried, because the patient did not wish to have so large an instrument employed, as it caused discomfort when passing behind the cricoid cartilage.

Dr. Sands remarked that he attributed the long absence of recontraction to the shortness of the stricture, as well as to its complete division. He hoped that the cure would prove permanent. The patient's health had for a long time past been excellent, and no difficulty was experienced in swallowing solid food.

Naso-pharyngeal Polypus.—Dr. Sands also presented a patient from whom he had removed a naso-pharyngeal polypus by means of the galvanic écraseur, and read the following account of the case, which had been copied from the records of the Roosevelt Hospital by Dr. E. V. Silver, one of his assistants:

H. R., aged eighteen, Ireland, single, laborer. Admitted October 26, 1886. Family history negative. Previous personal history: Has always had good health. Gives no history of phthisis, Bright's disease, or rheumatism. For ten or twelve years he has had a thick, difficult enunciation, but this trouble has made no noticeable progress. His other symptoms are all of recent date, beginning with a cold caught ten months ago, after which he had much difficulty in breathing through the nose. Eight months ago he had a slight hæmorrhage from the nose. It was easily stopped, but four months afterward a severer bleeding began and lasted a week, occurring three or four times a day. Since then talking and breathing have been much worse. He is a large, strong-looking young man, but appears rather anæmic. Examination of the pharynx shows a round, smooth mass pendent from the posterior nares, and projecting into the upper part of the pharynx. It is slightly visible beneath the free border of the soft palate when the mouth is well opened. It can be easily felt with the finger, and is found to be of a rather soft and compressible character. The finger can be passed without difficulty in front of and behind it, showing that no adhesions exist, and that the probable origin is from in front of the foramen lacerum medium. Examination through the anterior nares shows only that the left side is wider. The growth is not seen from this direction. He has no discharge from the nose, and is chiefly inconvenienced by the obstruction to breathing.

Urine amber-colored, alkaline; specific gravity, 1·033; cloudy; sediment, five per cent. albumin, phosphates, ammonic urates. Fifty-three ounces.

October 28th.—Ordered Blaud's pills (gr. v), ij, t. i. d.

30th.—Ordered oxygen, cx, p. d.

November 3d.—A wire was easily passed through the left nostril into the mouth and made to surround the new growth.

6th.—Cocaine anæsthesia. Operation, 2.30 P. M., by Dr. Sands. A copper wire was introduced through the left nostril and brought out through the mouth. To this the end of a platinum loop was connected and passed back again, the platinum being brought out of the left nostril, care being taken that these wires did not cross. The loop was then adjusted about the polypus and drawn up tightly, and its free ends were passed through the handle of a galvano-cautery, which in turn was pressed as far as possible through the left nostril toward the posterior nares. The connections were then established, and a fair current of electricity was passed over the platinum wire, heating it to a red heat. Just before the current was applied, a strong silk suture was passed through the bottom of the polypus by a curved needle, so that traction might be made on the tumor from below, and that it might be prevented from slipping out of reach when the pedicle should be divided. The separation was rather slow (six minutes being required), and during this time there was a good deal of bleeding, and the patient seemed to suffer some pain. At last the pedicle was divided and the tumor drawn out of the mouth. The bleeding then ceased, and did not recur. The pain also did not continue. The polypus was half as large as an egg (*i. e.*, 1½ in. × 1¼ in. in diameter). The pedicle had been very evenly removed close to the body of the tumor.

9th.—Patient has had no bleeding at all, but has a slight nasal catarrh. He is discharged cured.

Microscopical examination by Dr. Delafield shows the tumor to be a polypoid fibroma.

The speaker remarked that his object in bringing the patient before the society was mainly to emphasize the fact that very few cases of naso-pharyngeal polypus were suitable for treatment with the galvano-cautery. The method, which dated back to the time of Mitteldorf and his followers, had been practiced often enough to prove its value; but, as most naso-pharyngeal polypi were attached to the skull by a broad base, and could not be embraced by a loop of wire, this safe and easy method of operation was inapplicable.

Dr. George A. Peters asked if Dr. Sands had any difficulty in handling the pedicle.

Dr. Sands replied in the negative.

Dr. Peters said that he had operated on several naso-pharyngeal polypi, but had never seen one with a narrow stem like that presented by Dr. Sands.

On the Use and the Abuse of Passive Motion.—Dr. Sands read the following paper:

I am induced to bring before the society for discussion the well-worn but important subject of passive motion, in the hope of putting it, if possible, on a broader and a more scientific basis. So many claims are made in its favor which seem to me to be unfounded, that I think it desirable to state just what amount of good may be expected from it, and in what class of cases the method is unsuitable. I approach the subject with some hesitation, because I am apprehensive that my opinions will encounter opposition. I shall present, however, little more than the results of my own experience; and I entertain some views which I should be glad to alter, provided I could find other ones supported by credible testimony.

The phrase passive motion may appear to be somewhat ambiguous, as the word passive implies merely that the patient either offers no resistance to manipulation, or that the resistance offered is overcome. On the other hand, the movements made by the surgeon are always active and sometimes very forcible. A degree of severity, therefore, may belong to the procedure which the term is not adapted to convey.

Concerning the common form of injury known as a sprain, which most often occurs at the ankle, it may be remarked that various lesions are doubtless included under this designation. In slight cases the ligaments are, perhaps, only severely stretched; in bad ones they may be more or less completely torn. Subcutaneous extravasation of blood is usual, and occasionally hæmorrhage takes place into the adjacent joints and tendinous sheaths. In a few cases the parts continue weak and painful for a considerable, or it may be an indefinite, period, while in a still smaller number the foundation is laid of serious organic disease.

In no form of injury do wider diversities of opinion exist regarding treatment than in that called sprain. The old-fashioned treatment, which prescribes rest and fixation of the sprained joint, is preferred by some, while wonderfully good results are declared by others to proceed from the early employment of massage, combined with passive motion, and the almost immediate use of the injured parts. As in many other instances, the truth here probably lies between the extremes. My own practice has generally been conservative. Unless the injury is of trifling degree, rest and immobility would seem to be instinctively, if not imperatively, demanded. By rest and immobilization an opportunity is afforded for a reunion of the ruptured parts, while the pressure of a bandage favors the diffusion and absorption of blood, serum, and other extravasated fluids. When it may be reasonably presumed that the injury has been repaired, usually after the lapse of from one week to two weeks, passive motion has seemed to me useful by preventing or removing stiffness or pain. Aside from tuberculous disease of the joint, which may undoubtedly arise in consequence of this form of injury, I have often known the use of a badly sprained ankle to be followed by long-continued lameness and pain. I am therefore inclined to be cautious, and to enjoin rest for, perhaps, an unnecessary period, rather than recommend motion which might be premature. Massage and passive motion I have found most serviceable in recent sprains of mild degree, and in cases of stiffness resulting from old adhesions or prolonged disease. In such instances I have witnessed excellent effects from these remedies, but I am disposed to look with distrust upon active treatment applied to recent sprains at all severe. I have been reminded by Dr. William G. Le Boutillier, lately my house surgeon in the Roosevelt Hospital, that a favorite method there, when the sprain is not severe, consists in the immersion of the injured foot for several hours in hot water, and the subsequent application of a firm bandage. Under this treatment many patients are enabled to leave the hospital, walking tolerably well, at the end of three days.

After the reduction of dislocations I have rarely found it necessary to employ passive motion. I have usually kept the injured parts quiet by means of a sling or a bandage for a period varying from a week to a fortnight, and have then encouraged the patient to resume the normal movements. In a few instances, after reducing dislocations of the shoulder, I have been obliged to use considerable force in order to break up adhesions which had formed outside the articulation, in consequence of inflammation caused by the primary injury.

Experienced surgeons are divided in opinion regarding what mode of treating fractures is least likely to be followed by stiffness. Verneuil maintains that immobilization never induces ankylosis, but tends to prevent it by averting inflammation. Other surgeons are so apprehensive of causing, by immobilization, a loss of movement that they renounce the use of splints almost entirely, and practice passive motion very early. Both parties state that they have obtained good results; and, without pretending to be dogmatic, I desire to give my own views as founded on personal observation.

In the first place, true ankylosis must be extremely rare. The only examples of the kind I can recall are those in which comminution had taken place of the bones composing the ankle or the elbow joint, which had become fused during the process of repair. Provided a fracture is simple, comminution, however extensive, is not very likely to be followed by ankylosis; and, at the present day, with suitable antiseptic treatment, such a result should be infrequent, even when joint fractures are compound.

But, if true ankylosis after fracture is rare, stiffness from false ankylosis is less uncommon, and, if incurable, may greatly diminish the usefulness of a limb. Its nature and causes are various. Undoubtedly it may occur in joints from simple disuse. I remember an example of the kind which I met with many years since, while I was serving an apprenticeship in the Bellevue Hospital. A woman broke her left femur at about its middle three times in the course of eight months. During the whole of this period she was kept in bed, with the limb maintained in a straight position by means of a weight attached to the foot. Meanwhile the knee, which was remote from the seat of fracture, became so rigid that, even with the aid of an anæsthetic, only the slightest motion was possible. She was dismissed with a stiff joint.

That organic changes occur in such cases can not be questioned. Shortening and rigidity of the capsule have been conjectured to exist, while distinct pathological conditions have been described by Bonnet* and Terrier,† who found, on post-mortem examination, or on inspecting limbs which had been removed by amputation, effusion of blood within the affected joint, undue redness of the synovial membrane, newly formed connective tissue uniting opposed articular surfaces, and swelling, erosion, and adhesion of the articular cartilages. Moreover, Menzel ‡ has shown by experiment that in animals swelling, hyperæmia, and pterygium-like affections of the synovial membrane, and degenerative changes in the articular cartilages, often take place in consequence of the enforced rest of a joint. Examples of the kind referred to may have been met with by every surgeon present, but they are seldom grave enough to cause serious apprehension. Furthermore, they are rare. As a rule, I have not observed that long-continued immobilization of a healthy joint gives rise to any stiffness which can not be quickly overcome, either by passive motion or by the unaided efforts of the patient. The early restoration of the natural movements, and the absence of sharp inflammatory reaction when these are resumed, prove that no important lesions have occurred. Nevertheless, the occasional sequel of obstinate stiffness suggests the propriety of watchful examination, and the avoidance, by timely passive motion, whenever necessary, of the injurious consequences that might otherwise ensue.

False ankylosis after fracture is usually dreaded when the fracture complicates a joint, or when it is situated very near to one. But I am satisfied that the danger in such cases has been greatly exaggerated, and that the stiffness, when it occurs, is often erroneously ascribed to the presence of morbid adhesions. In many examples of fracture at the elbow or at the ankle the subsequent limitation of motion can be traced to some bony displacement which happened at the time of the injury, and which was not accurately reduced. Or, as we have all noticed, the displacement may recur even after reduction has been accurately effected. Again, in rare instances, a bony callus may impede motion by projecting into the interior of a joint. Impediments of the kind referred to are often discovered only at a late period, after the swelling of the soft parts has subsided. The ankylosis in the two first-mentioned sets of cases does not depend on the formation of adhesions, but on a faulty position of one or more of the bony fragments. It can not be attributed to the long-continued wearing of splints, except so far as these may hide from view the existence of the impediment, and lead the surgeon to believe that things are right, whereas they are wrong. Whenever any such uncertainty is met with, therefore, I am in the habit of frequently examining the injured parts, and of resorting, if necessary, to such manual force as will restore the fragments to their proper position. Here passive motion will often be expedient, both as a test and as a remedy; but it is not practiced with the intention of rupturing abnormal adhesions. At a later period, when consolidation has taken place and motion is prevented by bony prominences, the ankylosis must be overcome, if at all, by some form of cutting operation. Passive motion, although often tried in these circumstances, would be obviously improper.

Adhesive inflammation, mainly circumarticular, I believe to be the chief agent in producing the stiffness due to false ankylosis following fractures. Fortunately, this affection rarely occurs to any troublesome extent when fractures are judiciously managed, and the broken bones are held in position by splints which do not exercise undue pressure. Accordingly, much stiffness of a joint seldom follows the usual treatment of a fracture which involves keeping the parts immobilized for three or four weeks.

Even after the patella has been fractured, and the knee has been confined in a straight position for a period of eight weeks, the joint is sometimes supple almost immediately after the splints are removed, and, without artificial assistance, will allow full flexion after the lapse of several months. Believing that adhesive inflammation is rarely severe after fractures in the neighborhood of joints, or extending into them, I have not feared the occurrence of ankylosis, but have generally avoided making movements before the consolidation of the fracture. So far as my experience goes, I have never had occasion to regret having followed this practice, and have never known ankylosis to result from it. Early motion, in my opinion, is very apt to be premature, and to cause the very stiffness it is intended to prevent. The case is different, however, when inflammation, denoted by pain, swelling, and œdema, has actually set in. It may be argued that, at this period, the plastic material is soft, and that, by passive motion, the formation of adhesions and the consequent stiffness may be avoided. But even here my practice has nearly always been mild and conservative. By removing pressure, by keeping the injured parts at rest, and by making cold external applications, I have sought to control the existing inflammation and to limit the amount of fibrinous exudation. To anticipate one evil effect of ankylosis, however, I have in these cases been careful to place the joint, if possible, in such a position as would render the limb most serviceable in the event of subsequent stiffness. Passive motion I have seldom practiced under these conditions, because it has appeared to me that it might do harm. Indeed, while the parts are swollen and tender, motion is difficult and painful, and, if perseveringly made, is likely, according to my experience, to cause an aggravation of all the unpleasant symptoms. On this point, however, I desire to speak with some reserve, because I have very little actual knowledge concerning the effect of passive motion practiced under the circumstances described. I have found it to be extremely painful, and I have suspected it to be mischievous. This is all I am willing to say. After operations for the correction of the deformity caused by Dupuytren's contraction of the finger, and after plastic operations on the hand, I have usually resorted to passive motion within a week, and have thought that stiffness was thereby prevented. Now, a similar rule may apply to fractures when threatened with ankylosis; but I have had no experience which would convince me that such is the fact.

In common with many other surgeons, probably, I have met with stiffness most often after fractures of the lower end of the radius. I have seldom seen it except in persons who had passed the middle period of life, and I have never known it not to have been preceded by signs of inflammation, which I have believed to be adhesive in character, and to involve especially the sheaths of the tendons in the neighborhood of the wrist. Certainly, the stiffness which occasionally follows is due rather to adhesion of the tendons than to any affection of the joints. The liability to this unfortunate occurrence has led some eminent surgeons to discard altogether the use of splints in the treatment of these fractures, and to seek to prevent stiffness by an early resort to massage and to active and passive motion. I am not prepared to condemn such treatment entirely, or to deny that it may sometimes be expedient. But I am unwilling to believe that it is usually either necessary or safe. Some of the worst results I have witnessed have followed a neglect to fulfill the ordinary indication to reduce the displacement, and to maintain the reduction by the application of suitable splints. Not only deformity, but also loss of motion, may follow such neglect; and I am sure that a proper reduction of the fragments will go far toward preventing the occurrence of inflammation, on which the stiffness ultimately depends. It can be conclusively shown that immobilization of the injured parts may be usually enforced for a long time without giving rise to ankylosis. At the Roosevelt Hospital, where many fractures of the lower end of the radius are treated, the plan adopted is to reduce the displacement at once as far as possible, and to apply two straight wooden splints, which extend along the forearm and the hand, but not so far as to impede the movement of the fingers. These splints are occasionally removed for the purpose of examining the parts, which are otherwise allowed to remain undisturbed for a period of four weeks. The splints are then dispensed with, when the bones are found to be firmly united, the freedom of motion being only slightly impaired. The results thus obtained are excellent, and the normal movements are soon regained.* Two hundred and twenty-seven cases have been treated according to this method during the past three years, and only one case has terminated in permanent stiffness.† It may be fairly maintained, therefore, that, as a rule, these fractures can be successfully treated without resorting to early passive motion. Moreover, the fact that such fractures commonly get well without stiffness when the surgeon early begins passive motion proves nothing in favor of it, because they might have recovered equally soon if this had been omitted. But we must admit that stiffness now and then occurs; and the problem to be solved is how this can be obviated. I frankly confess that I am unable to offer, under all circumstances, a sure remedy. When the patient is old and rheumatic, the injury severe, and the inflammation active, I believe that stiffness may follow, whatever plan of treatment is pursued. I should be careful in such a case to remove all pressure of splints, which might increase the existing inflammation, and to combat the latter by rest, by elevation of the limb, and by making cold applications to the tender and swollen parts. Passive motion I should defer until the acute stage had subsided. An early resort to the latter method while active inflammation is in progress I have never dared to prescribe, fearing that it might cause harm. If I could be convinced from the experience of my colleagues that such a practice was beneficial, instead of injurious, I should be glad to change my present opinion, and to renounce the plan of treatment which I have found generally, if not uniformly, successful.

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* "Traité des maladies des articulations," A. Bonnet, Paris, 1855.

† "Gazette médicale de Paris," 1841, pp. 609, 625.

‡ "Archiv für Chirurgie," Band xii, S. 990.

* I am indebted for these statistics to Dr. George S. Huntington.

† The patient referred to was a man, who was treated in the usual manner soon after the accident. He remained away from the hospital,

I can speak much more positively and favorably respecting the efficacy of passive motion in promoting convalescence after fractures by removing what are called their residua—namely, swelling, stiffness, and pain on attempting movement. Often, it is true, these symptoms are not very marked, and will disappear entirely if the patient is encouraged to use the limb. But when they are decided and persistent, and when the natural movements are shunned on account of pain, indolence, or timidity, the value of massage and passive motion is unquestionable. When practiced daily, or every second day, such treatment will frequently cause rapid improvement by rendering the circulation in the swollen parts more active, by dissipating the swelling, which is usually due to passive œdema, and by making motion easy and painless. As every surgeon knows, patients who have suffered from fractured limbs are often reluctant to use them, even after the bones are firmly united, and it is in this class of cases that friction and passive motion are so valuable. Not infrequently, indeed, physicians, as well as patients, are deceived by the idea that the symptoms are indicative of inflammation which requires rest; and for this reason patients are sometimes disabled for a long period, and possibly treated for rheumatism or for some other disease which does not exist. A few active manipulations will reveal the error in diagnosis, and not seldom accomplish a cure. The sudden disappearance of pain on motion, which is occasionally noticed in these cases, can hardly be otherwise explained than by supposing that abnormal bands or adhesions have been forcibly ruptured. Whatever be the *rationale* of the treatment referred to, there can be no doubt that it is eminently successful.

In a small number of cases of stiff joint following injury, or dependent upon long-continued fixation of a limb, I have derived great advantage from the employment of an anæsthetic. The absence of pain and of muscular contraction thereby induced facilitates the necessary movements, and occasionally affords valuable aid in diagnosis. As a rule, however, anæsthetics may be dispensed with, and, furthermore, repeated movements are commonly needed to obtain the desired result.

I possess no personal knowledge of cases of slipping or adhesion of tendons, or of mysterious and unexplained lesions which, having resisted the ordinary means of treatment, have been brought to speedy recovery by the rough handling of bone-setters, and I believe that most of the statements made regarding their achievements are, to use a mild term, inaccurate. I am incredulous and suspicious of all marvelous cures, whether alleged to have been wrought by bone-setters or by orthodox members of the medical profession.

I have met with little or no success when employing passive motion for the purpose of overcoming the firm contractions of the skin and deeper tissues which follow burns and other injuries accompanied with much loss of substance. The limit of stretching of which scars are capable by passive motion is soon reached, and further attempts to extend them are quite liable to cause rupture.

The value of passive motion as a means of overcoming ankylosis due to disease, not caused directly by injury, is a subject which admits perhaps, of but little discussion. But there are some facts relating to it which should be distinctly stated, and there are some errors prevalent which should, I think, be corrected. Among the severer affections of the kind referred to, I have found most amenable to treatment cases of stiffness of the shoulder, apparently unconnected with disease of the joint, but dependent upon the presence of adhesions in the large bursa situated beneath the deltoid muscle. This disease, which has been well described by Duplay, has many features resembling those due to arthritis, from which, however, it is not hard to distinguish. But the movements of the arm at the shoulder joint may be limited and painful, and the usefulness of the limb nearly lost. I have encountered many such cases, and have invariably succeeded in affording relief by the employment of passive motion. This I have always practiced after administering an anæsthetic, and I have sometimes been compelled to resort to considerable force in order to overcome the resistance. The adhesions, wherever situated, usually give way with an audible sound, and the freedom and extent of motion are completely, but sometimes only temporarily, restored. By the subsequent use of passive and of voluntary motion, and by repeating the manipulations while the patient is under ether, if necessary, I have seldom failed to obtain a complete and permanent cure.

Unfortunately, I am unable to record equally good results from the treatment by passive motion of any other form of ankylosis, if I except certain cases of hysterical muscular contraction, which may be dismissed with this bare allusion. Most often I have had occasion to employ passive motion with the simple but important object of putting the diseased limb in a suitable position. Even before such an attempt is made, however, discrimination and caution are sometimes necessary. Probably most surgeons would agree that, when true bony ankylosis exists, passive motion should not be made to correct the deformity, which should be dealt with, when necessary, by the use of the knife and the saw. Passive motion may also fail to alter the position which a limb has assumed in the course of tuberculous arthritis of long standing. When, in old hip disease, the thigh has become much flexed and adducted, forcible motion, intended to secure a straight position, is at least a doubtful expedient. It will probably turn out to be unsuccessful, because the soft parts will be found so contracted and rigid that nothing short of actual violence will cause them to yield enough to permit a correction of the deformity, which, moreover, may be further maintained by bony alterations impossible to anticipate or overcome. Again, the employment of much force in such circumstances has often been known to set up severe inflammation, with even fatal consequences. Excision, therefore, although apparently a harsher remedy would seem to be preferable, as involving less danger, and obtaining a better and more definite result. Similar remarks may be made respecting the knee. When, in consequence of old joint disease, the leg has become flexed and rotated outward, the head of the tibia partly luxated backward, and the soft parts behind the joint contractured, any attempt to straighten the limb by passive motion, even when preceded by tenotomy of the hamstrings, will be futile, and the end in view can be gained only after a formal excision has been performed. But, in the early stages of arthritis, whether tubercular, gonorrhœal, rheumatic, or of other origin, a bad position can always be safely corrected by manual force, aided by an anæsthetic, when necessary, and thereby, in the event of ankylosis, one of its most disastrous consequences can be prevented.

For the purpose of restoring movements which have been impaired or lost from the occurrence of firm false ankylosis of the joints from whatever cause, or for the removal of stiffness dependent on the firm adhesion of tendons to their synovial sheaths, my results, after many trials of passive motion, have been so discouraging that I now seldom advise this mode of treatment as a means of cure. As, however, the exact amount of resistance to be overcome, and the exact pathologica condition can not be settled beforehand, I almost invariably, when consulted in cases of the kind referred to, advise the administration of ether, and the trial of a fair amount of forcible manipulation. But, if

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contrary to instructions, for a period of three weeks. When he returned, his wrist was found to be stiff. No further particulars are contained in the records.

the adhesions are numerous and firm, and great force is required in order to re-establish mobility, I have found that, even when the movements become very free and extensive at the time of operation, they are lost again almost immediately afterward, the stiffness returning and being as bad as before. It is often said that failure in these cases is due to a neglect on the part of the surgeon to maintain the advantage already gained by the continued practice of passive motion. But I am convinced that this assertion is untrue. So much pain, swelling, and ecchymosis follow the first attempts to move the stiffened parts that for a day or two afterward they must be allowed to rest; and when the inflammation has abated sufficiently to warrant a repetition of passive motion, the whole thing has to be done over again, and with the same result. My experience with this method in such cases has been so uniform that I can not doubt the correctness of the opinion I have expressed. I recall an instance in which a man who once consulted me was treated in the manner I have described; and although, at the time of the operation, the leg, which was at first extended, could be well flexed, the stiffness soon returned, and was as marked as ever. I kept the man's leg extended during his convalescence, and then advised him to let it alone. But he fell into the hands of an enterprising and enthusiastic surgeon, who promised to cure him, and who afterward boasted that he had done so. I finally caused an inquiry to be made about the patient, and ascertained that the joint had soon become again immovable.

To sum up what I have said, I am not an advocate of passive motion, except under the restrictions which I have endeavored to define. I believe that, when practiced without discrimination, it will often be unsuccessful, and sometimes injurious, by inducing or increasing inflammation. I am certain that the severer forms of ankylosis and of fixation of tendons are frequently due to this disease, and that the inflammation will be aggravated by employing passive motion before the active symptoms have disappeared. The idea that motion will always prevent ankylosis is a fallacy which is contradicted by common experience. I have performed the operation of excision of the elbow for the cure of true ankylosis, and I have seen such operations performed by others, during which, perhaps, too little bone was taken away; and, in spite of the early and diligent use of passive motion, the stiffness has returned, bony consolidation has recurred, and the operation of excision has had to be repeated. But motion may even be successfully employed as a means of causing a bony deposit to take place. It is a well-known fact that, in many instances of ununited fracture of the thigh or of the leg, bony union may be determined by the inflammation which is set up by making forcible motion of the fragments, or by causing the patient to walk about upon the injured limb, with the view of pressing them against each other. On the other hand, by operating according to modern antiseptic methods, which tend to prevent inflammation, partial excisions of even so intricate a joint as the elbow may sometimes be performed without any impairment of its mobility.

I have brought the subject of passive motion to the attention of the society, because it is one of great practical importance, concerning which surgeons are frequently consulted, and about which there may be honest differences of opinion. What I have stated here is the result of my own personal experience; but, as I mentioned in the beginning, I should be glad to change some of my present views if others could be advanced which were sustained by evidence that appeared to me to be clear and trustworthy.

(*To be concluded.*)

NEW YORK ACADEMY OF MEDICINE.

SECTION IN OPHTHALMOLOGY AND OTOLOGY.

Meeting of November 15, 1886.

Dr. C. R. Agnew, Chairman; Dr. J. A. Andrews, Secretary.

Double Optic Neuritis with Meniere's Disease.—Dr. T. R. Pooley related the history of a case. [See page 31.]

Dr. H. Knapp said that he had had no personal experience of sudden ear affection in Bright's disease. The retinal hæmorrhages so common in albuminuria would suggest their occurrence in the inner ear; Dr. Moos had, indeed, found hæmatoidin crystals in the cochlea, for which the speaker had long sought in the retina, but in vain.

Left-sided Homonymous Hemianopsia; Recovery.—Dr. T. R. Pooley related the history of the following case:

> "A gentleman, about thirty-five years of age, who was under my treatment in 1879 for a circumscribed choroidal exudation of specific origin in the left eye, which recovered with central scotoma and vision of $\frac{20}{200}$, consulted me again on the 30th of September, 1885. One week before, while out driving in a cold wind, he became suddenly faint, sick at the stomach, and, for a few seconds, quite blind, so that he was obliged to give the reins to his wife, who sat by his side. Upon recovery he found that he saw objects indistinctly, and in some directions not at all. When I saw him he was very much alarmed, excessively pale, and apprehensive. Examination of his eyes at once showed that he had left homonymous hemianopsia. The field of the right eye on its nasal side failed to nearly the point of fixation. In the left, the temporal half was in like manner affected. In neither eye did the defect extend quite to the point of fixation. The vision of the right eye was normal, that of the left $\frac{20}{200}$, due to the old lesion referred to. Both discs were of normal color, nor could I detect any change in the size of the vessels. Bearing in mind the antecedent history of the case, I advised an immediate and energetic plan of treatment. The patient was confined to bed in a darkened room, and the administration of large doses of iodide of potassium begun at once, under the belief that there was a gummy tumor or hæmorrhage, due to syphilitic degeneration of the artery, situated in the right occipital lobe. So far as my ability to determine went—I did not have the advantage of expert consultation—there were no other symptoms of cerebral disease. Finding that the patient tolerated the iodide very well—which was surprising to me, as in my former experience in treating him even very small doses would produce iodism—I rapidly increased it until he took one drachm at a dose, three times a day. Under this treatment there was a gradual restoration of the dark fields until, at the expiration of about six weeks, he had quite recovered.
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> "The improvement was first noticed after he had been under treatment for about a week, when, by examining the fields, as he lay in bed, with the hand, it was evident that the periphery of both blind fields saw it much sooner than before. Measurements were made from this time on with the perimeter. The first, taken October 10th, showed a very decided improvement of the fields. I regret to say that these have not been preserved in such a manner that I can present them here. The improvement took place at first in the periphery of the horizontal median plane, the defect disappearing much sooner in the upper inner quadrant of the right eye, and in the outer upper of the left. For a long time even after objects were seen here, they were far less distinct than in other parts of the field, but at the expiration of six weeks to two months from the time of beginning treatment, the blind fields were fully restored, and have continued so from that time until now, as I have had frequent opportunity to know by visits from the patient."

The speaker said he knew of only one other case in which restoration of the fields had occurred in hemianopsia, which was also in a syphilitic patient, and was reported by Dr. Oswald Baer, of Breslau ("Sammlung klinischer Vorträge in Verbindung mit deutschen Klinikern," herausgegeben von Richard Volkmann, No. 246), on the diagnostic significance of the measurements of the fields of vision, to which he would but briefly refer.

Patient, aged thirty-five, 1870. Contracted syphilis. Was treated in the usual way. Seven years later married, and had a perfectly healthy boy. His wife had never aborted. He came under Dr. Baer's treatment on the 4th of April, 1883. He was employed on the railway as secretary of the post-service, and rode daily on the train from Breslau to Berlin. Eight weeks before, when only four miles from Breslau, he had been seized with dizziness, fell over, vomited, and was unconscious for from two to three minutes. During the rest of the journey vomiting was repeated. On the arrival of the train in Berlin he had to be helped out of the car.

The next day he was brought back to his house in Breslau, where he remained three weeks in bed. His sensorium and memory were much affected. The attack was probably treated as an apoplectic seizure. When he got about again, squinting and dilatation of the left pupil were noticed, in spite of which he returned to work, but, as he could neither write nor read, he went to see Dr. Baer.

His intelligence and memory were undisturbed. The left eye strongly turned outward. In forcible attempts to look to the right, the inner margin of the cornea remained 2½‴ from the punctum lacrimale. There was also impairment of the movements of the eye upward and downward, with drooping of the upper lid. The pupil middle was wide and reacted sluggishly to light. The gait was feeble; the right hand feebler than the left. There was no diplopia, except in looking to the left in the dark with a red glass before the eye, showing that the abducens was also paretic. The failure of double images to appear when looking to the right was explained by the presence of a typical right-sided homonymous hemianopsia; the right halves of the visual fields were wanting; throughout, the unaffected region was marked by a vertical line which went through the points of fixation in both eyes; a peripheral contraction of the left halves of the fields was not noticed. Treatment consisted first of iodide of potassium; then, from the 26th of April to the 25th of May, inunction; then again iodide of potassium. Improvement began in a few weeks after, first in the paresis of the ocular muscles. On the 24th of April there was first observed a small white spot in the periphery of the right horizontal meridian, in which there was perception of light. On the 17th of May there was a similar return of perception of light in the right half of the field in the left eye. The improvement continued still more, but slowly, until it seemed at a standstill, the right upper quadrants of both eyes remaining without perception of light. A marked improvement continued until, on December 10, 1883, the fields were nearly restored, but there was not, as in the speaker's case, a complete restoration of the blind halves. He regretted that he had failed to keep more careful notes of his case as to the dates of examination, but he was very busy at the time, and, as he saw the patient at his home instead of at the office, he failed to make careful entries of the dates of examination. The principal value of both his case and the similar one referred to, however, was that, when hemianopsia depended upon a specific lesion, it might be cured by large doses of iodide of potassium and mercury. He should, however, place his chief dependence on the former, in the belief that if the lesion was, as would most likely be the case, a gummy tumor, this was the most reliable drug.

The more complete recovery of his patient was, he believed, due to the fact that the patient came under his treatment very much sooner than in the case referred to, where eight weeks had elapsed from the date of the attack; and also to the use of iodide of potassium alone, and very probably in larger doses than those given by Dr. Baer, for the credit of using the iodide in such large doses belonged, he believed, mainly to this country.

Dr. Knapp said, in reference to Dr. Pooley's query whether complete restoration of the visual field after cerebral apoplexy had been observed by others, that he had seen it, and more than once. He had stated this fact ten or twelve years before in a paper on "Sector-like and Hemiopic Defects in the Visual Field," read before the State Medical Society, and published in the only volume of Brown-Séquard's "Archives of Medicine," page 302, 1873.

In this paper not only was the fact of total recovery mentioned, but also its mode was described and illustrated. The restoration of the field always began at the upper or lower limit, never at the side, and advanced toward the opposite limit, showing in the course of recovery quadrantic or sector-like defects which, without the history, it would be difficult to account for. Though he had seen and described such cases, he wished to say that they were comparatively rare, and that, as a rule, all other symptoms of cerebral apoplexy disappeared sooner than the hemianopsia, and he had seen cases in which the latter was the only apparent symptom that had remained permanent.

Dr. Emil Gruening thought that Dr. Pooley's case was one of cortex hemianopsia.

Dr. J. A. Andrews spoke of a case of right-sided hemianopsia associated with aphasia, the result of cerebral hæmorrhage, from both of which conditions the patient had recovered. Although recovery from aphasia in cerebral hæmorrhage was not uncommon, recovery from hemiopia from a similar cause was a rare circumstance.

In closing the discussion, Dr. Pooley said that the feature of special interest in his case was that there remained no gaps or sector-like defects in the visual field, as had been observed in other recorded cases in which recovery had taken place.

Orbital Tumor.—The Chairman spoke of a case of orbital tumor occurring in a woman aged twenty-nine years. The growth had been noticed for the first time ten years before the patient consulted him. Two years after the first appearance of the growth it had been removed by a surgeon, but it had recurred three years later. The tumor, when first seen by the speaker, last spring, filled the upper part of the right orbit, and was hard, with deep-seated fluctuation near the supra-orbital notch, and there was exophthalmia. The ophthalmoscope showed the right optic disc to be choked. An incision was made into the pus cavity, half an ounce of pus was let out, and the cavity of the abscess was syringed out twice daily with a solution of bichloride of mercury, 1 to 2,000. Four weeks after the operation the choked disc had wholly disappeared and the vision was improved.

Dr. Knapp said that, in collections of pus at the superior orbital margin, he found that the frontal sinus was more frequently the starting-point of the suppuration than was commonly supposed. Not only when there was a tumor at the inner upper angle of the orbit, or at the inner or middle third of the supra-orbital margin, was the pus in many cases derived from the frontal sinus, but also when the tumor was located at the outer third. Suppuration in the frontal sinus was mostly chronic, and, as to its outward manifestations, the pus found its outlet through the infundibulum into the upper nasal passages; at other times it was stored up. Then it forced its way into the diploë of the roof of the orbit, separated the two tables from each other, and thus created a space which resembled a triangular prism the base of which was at the partition wall of the two sinuses, whereas its apex might reach to the outer upper corner of the orbit. In some cases the upper table was perforated by the pus, and death ensued from meningitis, or, what he had also seen and described, from abscess in the cerebral lobes. In other cases—the majority—the pus found an outlet somewhere at the roof or superior margin of the orbit. As the development of the swelling was slow, and its osseous and periosteal walls differed greatly in consistence, mistakes in diagnosis (diagnoses of osteoma, cyst, or sarcoma, with osseous spicula) were not infrequent, and only corrected during the operation. The chairman's case, it seemed to the speaker, might also have developed in the way he had endeavored to describe. The frequency of suppuration at the upper margin and roof of the orbit could not, he thought, sufficiently be accounted for by the anatomical condition or a particularly exposed situation of these parts; its cause might rather be sought for in the neighboring pneumatic cavity, where caries, polypi, and the stagnation of secretion might be mentioned as favorable conditions for suppuration.

The Chairman replied that he had thought of the connection indicated by Dr. Knapp, and looked for it, but had been unable to convince himself of its existence in his case.

Chronic Inflammation of the Middle Ear.—Dr. O. D. Pomeroy spoke of a case of this disease in which he had produced great improvement in the hearing by multiple puncture of the drum membrane.

Book Notices.

The Diagnosis and Treatment of Diseases of the Kidney amenable to Direct Surgical Interference. By W. Bruce Clarke, M. A., M. D. Oxon, F. R. C. S., Assistant Surgeon to and Senior Demonstrator of Anatomy and Operative Surgery at St. Bartholomew's Hospital, etc. With Illustrations. London: H. K. Lewis, 1886. Pp. ii–176.

Surgical Diseases of the Kidney. By Henry Morris, M. A., M. B., F. R. C. S., Surgeon to, and Lecturer on Surgery at, Middlesex Hospital, London, etc. With Forty Engravings and Six Chromo-lithographs. Philadelphia: Lea Brothers & Co., 1886. Pp. viii–548. [Price, $2.25.]

The history of systematic efforts at kidney surgery dates back only to 1869, when, in England, Mr. T. Smith proposed before the Medico-chirurgical Society, from theoretical considerations, the operation of reaching the kidney from the loin, and incising it for the removal of calculi within its cavity, and in Germany, Gustav Simon, after a series of painstaking experiments on animals to demonstrate its feasibility, successfully extirpated a kidney for the relief of an abdominal urinary fistula. The progress which the few years that have elapsed since then have accomplished is well shown in the two books whose titles are given above.

The literature of renal surgery has already become extensive, and the clinical experience which has resulted from the work of a large number of laborers has become sufficient to make this department of surgery even now well elaborated. The work of digesting and systematically presenting all the material now available in this new field of surgery seems to have been nearly simultaneously undertaken by these two London surgeons, and the result of their labors is seen in these books.

The general plan of the two books is quite similar; both begin by a description of the regional anatomy of the kidney and of its anatomical abnormities; then injuries of the kidney are considered; the subjects of new growths in the kidney, calculus, perinephritic abscess, pyo-nephrosis and hydro-nephrosis are treated by each, though not in the same order. Morris gives, in addition, chapters on "Renal Affections secondary to Diseases of, or Operations upon, the Lower Urinary Organs," and on "Renal Disease as a Cause of Irritability of the Bladder, and Diseases of the Kidney which simulate Disease of the Bladder." The subject of urinary fistula, which is treated of by Clarke in a brief paragraph, is expanded into a chapter of eighteen pages by Morris. Both authors conclude with a chapter on "Methods of performing the Operations on the Kidney." Although the general scope and teaching of these two books are so nearly identical, the books themselves are essentially different. Mr. Clarke's book is brief, condensed, practical; the type is large and clear; the style is good; the book is easy reading. Mr. Morris's book is an elaborate and comprehensive study. He presents four times as much of solid matter as is contained in the book of his colleague. His style is more diffuse, and the smaller type and page, which have been required to compress his material into a hand-book of the desired size and cost, has put the book at a disadvantage. Both are desirable additions to surgical literature.

The Medical Aspects of Bournemouth and its Surroundings. Illustrated with Chromo-lithographs (by Hanhart) and Photographs (by Debenham and Gould) from Original Sketches by the Author. By Horace Dobell, M. D., etc. London: Smith, Elder, & Co., 1885. Pp. xv–338.

The well-known author of "Winter Cough" and many other works presents us a volume of results of more than thirty years' personal experience and study. Since 1849 he has sent his London patients to Bournemouth, and since 1882, when he retired from metropolitan practice, he has resided there exclusively. The book has the charm of books written by men of ripe years, long experience, and matured judgment, with the fondness for detail and retrospect which come from those who are fortunate in retirement and rest. Bournemouth is on the English coast, at the mouth of the river Bourne, and opposite the Isle of Wight. The bay is in outline an amphitheatre, with cliffs or sand-hills on three sides varying from fifty to one hundred and thirty-nine feet in height. The residence portion of the town is situated on an extended plateau above the cliffs, with a wide expanse of marine and inland views. Despite the direct exposure to the sea, the place is asserted to enjoy a relative immunity from rain and fog, by virtue of the semicircular range of cliffs and the numerous "rain-traps" which indent their sandy fronts. Bournemouth possessed a limited distribution of pine-trees. But the artificial production of a pine-grove region by private energy and enterprise, and largely from Dr. Dobell's advocacy, is phenomenal. In one estate alone (Branksmere Park) 3,388,000 pines have been planted, and over 1,150,000 are standing. A terebinthinate atmosphere has thus been provided. A second feature of the place is the remarkable porosity of the soil of the plateau and sand-hills. There is no clay within fifty feet of the surface. The air is therefore uniformly dry. Special care has been given to town sewerage and house sanitation. The author regards the location of the town on the elevation above the cliffs, rather than upon the beach below, at the sea-level, as of great importance. It secures immunity from what he designates "marine cachexia," a product of the decomposing mixed fresh-water and salt-water vegetation of the estuaries and coast. This has long been a favorite theory of Dr. Dobell's. But most observers will ascribe the cachexia to defective drainage and the contaminated drinking-water of springs or shallow and driven wells, made necessary by the sandy soil and sea-level.

The book includes the author's views, already known, of the influence of climate on thoracic diseases. How true his statement: "The majority of phthisical patients die of septicæmia, and the arrest of this daily repoisoning is a primary object of treatment"! Hence the importance of an antiseptic climate—air pure, dry, terebinthinate, with a surplus of ozone, and free from particles which favor decomposition.

The author's analysis of the numerous pathological conditions in chronic phthisis and "winter cough" is excellent. Too few clinicians concede the complexus of lesions which contribute to make up a case of phthisis. The recognition of such a state of things leads to more careful differential study, more varied treatment, and often to a more hopeful prognosis and prolonged lease of life, than results from a sweeping diagnosis of tuberculosis. Dr. Dobell's closing chapter treats of general climatology. He displays a more accurate knowledge of our Western health resorts than is usual with foreign writers.

The Laws of Generation, Sexuality, and Conception. By H. M. Gourrier, M. D., of the Faculty of Paris, etc. Translated and edited by Franklin Duane Pierce, M. D., Superintendent of the Union Springs, N. Y., Sanitarium. Union Springs, N. Y.: Hygeia Publishing Co., 1886. Pp. 94.

It is curious how many theories have been advanced to account for difference of sex in the product of conception. Our faith in the ultimate possibility of formulating any fixed law by which sex can be determined at will is often rudely shaken by the contradictory statements of those who have given special attention to the subject. Dr. Pierce has rendered into smooth English this little monograph, in which the reader can not fail to be interested because of its vigorous, epigrammatic style, however much he may feel inclined to doubt whether stock-breeding and the generation of the human species are subject to a common law.

A Compend of the Diseases of the Eye; including Refraction and Surgical Operations. By L. Webster Fox, M. D., Ophthalmic Surgeon to the Germantown Hospital, etc., and George M. Gould, A. B. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. xi–9 to 148.

This little book is No. 8 of the Quiz-Compends which have proved so useful to students, and is a concise account of the leading facts relating to the refraction, diseases, and surgery of the eye. It is divided into four parts. The first treats of the refraction of the eye; the second, of functional disorders affecting vision; the third, of the diseases of the eye; and the fourth, of surgical operations, instruments, etc. The first part is an excellent *résumé* of our knowledge of the errors of refraction and accommodation, and of the means employed for their correction, and the rules for prescribing spectacle-glasses are especially to be commended. In Part III, on the diseases of the eye, the classification of diphtheritic or croupous conjunctivitis as one type of purulent ophthalmia is an error into which the authors should not have fallen. In the light of modern pathology, diphtheritic conjunctivitis is *not* one of the types of purulent ophthalmia, though croupous conjunctivitis may be, and is certainly distinct from the latter. The fourth part includes a description of the instruments used in ophthalmic surgery, and a list of formulæ, which may prove useful. The illustrations are all good, and there is a satisfactory index.

Reports on the Progress of Medicine.

NEUROLOGY.

By J. LEONARD CORNING, M. D.

The Nature and Action of the Venom of Poisonous Snakes. The Venom of the Indian Cobra (*Naja tripudians*).—Wolfenden ("Jour. of Physiol.") has conducted an elaborate series of experiments with cobra venom, from which he feels justified in drawing the following conclusions regarding the nature of the poison: 1. Its toxicity is not due to any bacillus, bacterium, or living organism. 2. It is not due to any alkaloid. 3. It is not due to any hypothetical "cobric acid." 4. It is wholly due to the proteid constituents of the venom. 5. These proteid constituents are: (*a*) Globulin, which is always present and probably kills by interference with the respiratory mechanism (asphyxia), and without paralysis—causing local inflammation, but not of great intensity (compared with *Daboia*). (*b*) An albumin resembling acid albumin, which is precipitated along with globulin by saturation, and which is in some degree dialysable. This proteid probably acts on the respiratory apparatus chiefly, like globulin, but less intensely. (*c*) An albumin which is precipitated by Na_2SO_4 out of the magnesic filtrate, and which is serum albumin. This is also toxic, and produces a kind of ascending paralysis with fatal termination, by suppression of the respiratory function probably from paralysis of the muscles concerned in respiration. (*d*) Traces, in some specimens, of hemialbumose, and questionable traces of peptone. The author regards these as accidental, and probably due to the length of time the poison had been kept.

In a subsequent paper in the same journal Wolfenden gives the account of some experiments which he conducted with the venom of the Indian viper (*Daboia Russellii*). The dried venom of this snake is very similar to that of the cobra, the proteid scales, if anything, being a little yellower in color, and finer and more glistening than the dried cobra venom. It is, like cobra venom, soluble in water, the solution not being quite clear (containing epithelial scales), and frothing on shaking like an albuminous fluid. It is also, like cobra venom, acid in solution. The toxic symptoms ordinarily evoked by *Daboia* venom are not constant, and usually fall under one of the following headings: 1. Death from primary convulsions. 2. Death from convulsions and paralysis. 3. Death from blood-poisoning. The local effects of *Daboia* poison are in the majority of cases exceedingly great. In this respect it resembles the venom of the viper class of serpents, even the comparatively weak, like the common English vipers, producing great local derangements. Passing a stream of CO_2 through *Daboia* venom, well diluted, produces a fine precipitation of globulin in the fluid, preceded by opalescence. Upon dialysing the venom, there is at the end of three or four days a whitish yellow deposit of globulin on the dialyser. Injections of the globulin produced severe local symptoms and chronic poisoning, followed by death. There was also obvious implication of the respiratory system.

The Effect of Cocaine upon Mixed Nerves.—Kochs ("Ctrlbl. f. klin. Med.") has demonstrated, by a series of ingenious experiments on animals, that, when a concentrated solution of cocaine is brought in contact with a nerve-stem containing both sensory and motor fasciculi, conduction in the former is abolished in an exceedingly short space of time. Thus, after placing a small quantity of cocaine crystals upon the exposed sciatic nerve of a frog, abolition of sensibility was obtained in about one minute in those portions of the integument supplied by the nerve. On releasing the frog from the operating-table and placing it upon the floor, it was seen, however, that the motor fasciculi of the nerve were entirely unaffected, since the animal's movements were in all respects normal. It must be borne in mind, however, that the phenomena just described are those observed after short applications of the anæsthetic. When, however, the applications of cocaine to the nerve are prolonged and oft-repeated, abolition of conduction in the motor fasciculi ultimately takes place. This fact is well shown by the following experiment: The sciatic nerve of a rabbit was carefully exposed and repeatedly treated with cocaine. At first the transmission of centripetal impressions was abolished (sensory paralysis), and ultimately centrifugal conduction was also arrested at the cocainized segment of the nerve (motor paralysis). From these researches it is evident that, when cocaine is applied to the trunk of a mixed nerve, sensory, and finally motor, conduction is abolished temporarily. [By passing a ligature around the leg of the animal *above* the point of application, in such wise as to exclude the nerve, while at the same time interrupting the circulation, there is no doubt that the phenomena may be indefinitely prolonged.—J. L. C.]

Meconeuropathia.—Hughes ("Alienist and Neurol.") calls attention to the fact that the long-continued use of opium or its alkaloids (in any considerable quantity) engenders a disorder of the nervous system which is entitled to distinctive recognition. It is as much a pathological entity as alcoholism, saturnism, hysteria, or chorea. Meconeuropathia, then, is entitled to as much consideration as many other obscure neuroses. The various symptoms of the affection become thoroughly manifest after withdrawal of the drug. Among the psychical symptoms are extreme restlessness, which may develop into morbid suspicion, or even spectral illusions, hallucinations, and delusions. Afterward there is delirium, with great agitation and tremor. This condition of transient insanity will depend in its ultimate manifestations and course much upon the constitutional idiosyncrasies of the patient. Melancholia and suicidal tendencies are therefore often developed in those of less sanguine tem perament, while mania and modified delirium will appear in others. The lower neuropathic features are pains in the limbs resembling those of rheumatism, which are particularly manifest in the forearms. Sometimes the character of these pains resembles that of the pains of locomotor ataxia, the patient complaining of pains which "shoot" along the course of the nerve-stems of the extremities. In conjunction with these painful manifestations there are usually profuse sweating and watery diarrhœa. The tense appearance of the facial muscles, so characteristic of those under the influence of opium, gives place to relaxation, and the whole expression of the countenance is one of extreme dejection. A subnormal temperature is also sometimes observed. The reflexes are exaggerated, and the function of sleep is more or less deranged. Sometimes the subject is the victim of persistent wakefulness, whereas in a not inconsiderable number of cases there is present a morbid kind of drowsiness, resembling that induced by inordinate drugging. With the diarrhœa there are also nausea and vomiting, accompanied by a continual desire to micturate. Indeed, many of the phases of the affection resemble, to a certain extent, those of cholera nostras. Too sudden an attempt to abandon the drug may give rise to symptoms of a most portentous character; and, indeed, death has frequently resulted from its precipitate withdrawal. A rational system of gradual reduction is to be commended, especially where the symptoms exhibited on temporary abandonment are at all threatening. The opium neurosis is not cured, even when the subject has been weaned from the drug; indeed, he is often affected with neuropathic symptoms, and is therefore a proper subject for neurological treatment for many months, even after the drug has been definitively abandoned.

Idiocy complicated with Pachydermatous Cachexia.—Bourneville and P. Brican ("Arch. de neurol.") have contributed an interesting paper on this subject, which is somewhat difficult to abstract, owing to the somewhat desultory method of treatment. Starting out with the observation that Fletcher, Beach, and Ireland have already published accounts of this form of idiocy under the designation "Cretinoid Idiocy," they state that they propose to designate the affection "idiocy with pachydermatous cachexia." They are influenced in this by the recent addition to pathology of the malady commonly known as myxœdema. The cases of idiocy with pachydermatous cachexia which have been reported are exceedingly rare, and those in which autopsies have been obtained still more so. Indeed, the latter become reduced to only four cases; but, what is of paramount importance, absence of the thyreoid gland has been observed in all of them. From these facts there would seem to be an evident relation between the absence of the gland and the myxœdema. But what renders the correlation still more certain is the fact that a large number of individuals who have undergone extirpation of the thyreoid have subsequently had "operative" myxœdema. Again, experimental physiology, as exhibited by the experiments of Horsley, goes to support the correlation existing between the absence of the thyreoid gland on the one hand and pachydermatous cachexia on the other. Following this line of argument, the authors have divided their argument into two parts: the first is devoted to a consideration of cases of idiocy with pachydermatous cachexia; the second, to an examination of instances of extirpation of the thyreoid gland with subsequent development of pachydermatous myxœdema. [We await with interest the appearance of their concluding paper, in which will doubtless be communicated the final results arrived at by this mode of analysis.]

Tumors of the Spinal Cord.—Sachs ("Jour. of Nervous and Mental Dis.") has published an interesting case of tumor of the cord without involvement of the membranes. The chief clinical manifestations may be summarized as follows: The affection, which was at first supposed to be of rheumatic origin, began with pain in the left shoulder, which radiated down the arm, becoming progressively more intense. The location of the pain in the beginning of the trouble was chiefly in the area of the ulnar aspect of the forearm. Afterward it became disseminated over the entire dorsal and volar surface of the left forearm and hand. Besides this, there were puffiness of the fingers and marked weakness of grasp in the left hand. Nevertheless, there was only slight loss of power in the muscles of the arm, forearm, and shoulder. This condition of the left arm remained unchanged during the entire course of the disease—a period of about two months. Slight paresis, from hyperæsthesia of the left leg, exaggerated tendon reflexes (at the knees), and ankle clonus, were the only other symptoms discovered during the first few weeks of the disease. These symptoms, chiefly unilateral, continued until the close of the seventh week. During this interval the paresis of the left leg had developed into an almost complete paralysis, and the unilateral paresis became in the eighth week a complete paraplegia. With the increase in the paralytic manifestations the abdominal muscles and, to a certain extent, the respiratory muscles, as well as those of the right arm, became affected. To this picture were added incontinence of urine and bed-sores. As to the evolution of the sensory disturbances, it was noted that there developed by degrees a general hyperæsthesia of the left half of the body below the level of the third rib. Later on this hyperæsthesia developed into anæsthesia, which spread from the left half, and finally involved the right leg and, to a less degree, the right half of the trunk and the right upper extremity. The patient finally died quietly, and apparently without suffering. The main feature of the autopsy, which was conducted by Dr. Waldstein, was a round tumor, of the size of a hazel-nut, located between the sixth and seventh cervical segments, pressing upon the emerging posterior fibers without displacing them, and extending inward as far as the median line. At its caudal end the tumor had exceeded the median line by a small fraction of an inch. The dura and pia were readily detached from the spinal cord at the level of the tumor. No visible changes were found in the dura or pia, except a few small tubercular deposits in the latter over the middle dorsal region.

[This case is taken as the text for some excellent observations on the relation of the clinical phenomena to the cord lesions. It must be confessed, however, that post-mortem reasoning in matters of the kind will commend itself to the logical perception of the clinician more than any amount of *a priori* speculation. To the majority of neurologists, then, the difficulty of forming a correct physiological and pathological diagnosis, ante mortem, in cases of spinal tumor, is practically insurmountable. A carefully presented case like this of Dr. Sachs's will, nevertheless, prove of value in the construction of a future symptomatology of tumors of the cord.—J. L. C.]

A Case of Tubercular Tumor of the Optic Thalamus, with Post-hemiplegic Chorea-like Movements.—Ashby ("Med. Chronicle") has published an interesting case of this kind, with autopsy. The following are the main points of interest: E. C., aged five years, was admitted into the Children's Hospital on July 8, 1886, his mother giving the following account of the child's previous condition: "The boy was strong and well up to two months ago, when playing one day he complained that he had pain in his left arm and leg, followed by weakness in both limbs, and when he walked he dragged the limb after him. The arm, which was at first useless, began to be 'always on the work,' moving constantly and never at rest. The child is quite healthy in other respects. He has never been convulsed." On admission, it was observed that the left arm was in constant motion, the movements assuming the form of short, irregular, jerky contractions of the muscles of the forearm and arm, following each other with great rapidity, and closely resembling those seen in severe chorea. When the boy was in bed at rest the arm was more quiet, only a sort of fumbling movement of his hand being noticed, but, on asking him to sit up or give his hand, vigorous, almost violent, movements at once began. The left leg was weaker than the right, and all the reflexes on the affected side were somewhat exaggerated. There was no facial paralysis. No loss of sensation was noted, nor was any difficulty of sight discovered. There was no optic neuritis. The condition of the boy remained practically unchanged till August 3d, when tubercular meningitis set in, of which he died on August 17th. Besides the usual appearances of tubercular meningitis, an examination of the brain revealed the following state of things: "A vertical section made in front of the optic commissure showed on the right side a cheesy tumor half an inch by five eighths of an inch in the lenticular nucleus; a section made through the optic commissure showed that the same tumor extended backward, being seven eighths of an inch by one inch, occupying the optic thalamus, bulging upward the lining membrane of the lateral ventricles, pressing the thalamus inward, and also compressing the internal capsule. In a section through the peduncular parietal region the tumor, reduced in size, involved the thalamus and crus. There was no evidence of softening around the tumor, which shelled out without much difficulty." In conclusion, the author observes that the irregular movements already referred to had no resemblance to those of the affection commonly known as athetosis; but, on the contrary, they were much like those of certain forms of chorea.

Urethane.—Andrews ("Am. Jour. of Insanity") has conducted some interesting experiments with this hypnotic. Having first tested the effects of the remedy upon himself, he proceeded to try it in six cases of acute mania, four of paresis, four of melancholia, two of chronic mania, and two of dementia. The results of these experiments were on the whole decidedly favorable; but the author justly observes that before definite conclusions can be arrived at a more extended series of trials is necessary. Irrespective of this fact, however, the results obtained by Andrews are decidedly encouraging. The dose usually employed by him was thirty grains. On two occasions, however, doses of sixty grains were given. The result of these observations goes to show that urethane possesses marked hypnotic properties. Throughout these experiments no unpleasant effects were observed, and there were no phenomena pointing to other than an action affecting the cerebrum. The effects of the drug were felt, so far as Andrews was able to estimate them, within an hour after its administration.

Acute Melancholia Caused by Impacted Fæces.—Hutchinson (*ibid.*) has detailed an interesting case of this kind occurring in a married woman of forty. At the time of her admission into the Western Pennsylvania Hospital for the Insane, the patient suffered from acute melancholia, was very weak and extremely emaciated, her skin was bronzed, dry, and harsh, her hair was dry and falling out, and all the secretions of the body were perverted. On examination, a distinct tumor could be felt through the abdominal walls, following the course of the rectum and sigmoid flexure and making the introduction of a catheter to relieve the distended bladder almost impossible. The tumor was immediately thought to be an accumulation of hardened fæces. Accordingly, the scoop and appropriate injections were employed for several days, with the ultimate result of removing the mass entirely. Rapid improvement in the patient's health, both mental and physical, followed this evacuation, so that in less than one month she was discharged, being then in the enjoyment of perfect health of body and mind alike.

Miscellany.

The Medical Society of the State of New York will hold its eighty-first annual meeting in the Court Room, in the City Hall, Albany, on Tuesday, Wednesday, and Thursday, February 1st, 2d, and 3d. The preliminary programme includes the following: "A Plea for Intra-uterine Medication," by Dr. Paul F. Mundé, of New York; "Separation and Displacement of the Upper Epiphysis of the Os Brachii in a Child two weeks old, caused by violence," by Dr. William C. Wey, of Elmira; "Paroxysmal Cardiac Dyspnœa," by Dr. Alfred L. Loomis, of New York; "The Radical Cure of Reducible and Irreducible Herniæ, touching on the Advantage of the High Removal of the Sac and the Wound being Dressed Openly to secure a Firm Compressive Cicatrix," by Dr. Robert F. Weir, of New York (the discussion to be opened by Dr. A. Vander Veer, of Albany); "Observations on Reflex Nervous Disturbances," by Dr. W. E. Ford, of Utica; "The Influence of Small Doses of Salts of Lime and Potash on Muscle, Cardiac and Skeletal," by Dr. Sydney Ringer (an honorary member), of London; "Is the Danger of Post-partum Hæmorrhage increased by the use of Anæsthetics during Parturition?" and "Remarks on Antiseptic Midwifery," by Dr. Fordyce Barker, of New York; "Remarks on the Indiscriminate Use of Pessaries," by Dr. J. W. Whitbeck, of Rochester; "The Therapeutic Uses of Bismuth," by Dr. F. A. Castle, of New York; "Is Modern Midwifery Meddlesome?" by Dr. David Little, of Rochester; "Some Important Points in the Management of Deep Urethral Stricture," by Dr. Fessenden N. Otis, of New York; "The Necessity for the Complete Removal of the Uterine Appendages whenever the Operation is called for," by Dr. A. Vander Veer, of Albany (discussion by Mr. Lawson Tait, of Birmingham, England, an honorary member of the society, and Dr. W. Gill Wylie, of New York); "The Treatment of Membranous Croup" and "Peritonitis of the Infant," by Dr. A. Jacobi, of New York; "The Clinical Significance of Cardiac Murmurs," by Dr. Wesley M. Carpenter, of New York (discussion to be opened by Dr. Alfred L. Loomis, of New York); "On a Case of Dislocation of the Head of the Left Femur under the Pubic Arch," by Dr. Jarvis S. Wight, of Brooklyn; "On the Supposed Virus of the Chancroid," by Dr. Frederic R. Sturgis, of New York (discussion to be opened by Dr. F. N. Otis, of New York); "The Correction of the Deformity termed Pug-Nose by a Simple Operation," by Dr. John O. Roe, of Rochester; "The Surgery of the Lungs," by Dr. Roswell Park, of Buffalo (discussion to be opened by Dr. R. F. Weir, of New York); a paper (subject to be announced) by Dr. Cornelius R. Agnew, of New York; "Cascara Sagrada," by Dr. Alexander Hutchins, of Brooklyn; "Intubation of the Larynx," by Dr. Edward L. Partridge, of New York; "A Demonstration on the Cadaver of the Method of Intubation of the Larynx," by Dr. J. O'Dwyer, of New York; "An Unusual Method of Ridding the Male Bladder of Small Calculi," by Dr. A. Dann, of Rochester; "The Duty of the Medical Profession in Promoting Cremation," by Sir T. Spencer Wells, of London, England, an honorary member of the society (discussion to be opened by Dr. A. Jacobi, of New York); "The Diagnostic Areas of the Human Chest," by Dr. James R. Leaming, of New York; a paper (subject to be announced) by Dr. Alfred Mercer, of Syracuse; "Tobacco Amblyopia," by Dr. H. Bendell, of Albany (discussion to be opened by Dr. D. B. St. John Roosa, of New York); "Practical Observations on Abdominal Surgery," by Dr. W. Gill Wylie, of New York; "Irregularities of the Septum Narium as an Ætiological Factor in Nasal Catarrh," by Dr. F. W. Hinkel, of Buffalo; a paper (subject to be announced) by Dr. George H. Fox, of New York; "The Duration of the Syphilogenic Capacity in Relation to Marriage," by Dr. P. A. Morrow, of New York; "The Management of Certain Forms of Varo-equinus," by Dr. A. M. Phelps, of Chateaugay (discussion to be opened by Dr. V. P. Gibney, of New York); "An Unusual Form of Diphtheritic Paralysis," by Dr. Laurence Johnson, of New York; "The Palliative Treatment of Cancer of the Uterus in its Later Stages," by Dr. Andrew F. Currier, of New York; "Perinæorrhaphy," by Dr. W. W. Potter, of Buffalo; "The Physiology of Menstruation," by Dr. Bach McE. Emmet, of New York; a paper (subject to be announced) by Dr. William Hailes, of Albany; "External Urethrotomy," by Dr. L. Bolton Bangs, of New York; "The Intoxicant Habit," by Dr. H. R. Hopkins, of Buffalo (discussion to be opened by Dr. W. C. Wey, of Elmira); "Transfusion of Saline and Saccharine Solutions in Cases of Extreme Exhaustion," by Dr. Joseph W. Howe, of New York; "Some Points of Medico-legal Interest in the Scientific Investigation of the Case of the People *vs.* Roxalana Druse," by Dr. A. Walter Suiter, of Herkimer; "Questions in Nutrition," by Dr. E. V. Stoddard, of Rochester; "A Plea for a more Careful Investigation of the Urine in Infants and Young Children," by Dr. L. Emmett Holt, of New York; "Tests for an Antiseptic," etc., and "Two Cases of Transplantation, without Pedicle, from Arm to Eyelid," by Dr. Lucien Howe, of Buffalo; "Report on a Ninth and a Tenth Series of One Hundred Consecutive Cataract Extractions performed according to von Graefe's Method," by Dr. H. Knapp, of New York; "Details of Antiseptic Treatment in Emergencies and Private Practice, with a Practical Demonstration of Methods," by Dr. Arpad G. Gerster, of New York; "The Relation of Laryngeal to Pulmonary Phthisis, and the Importance of Local Treatment," by Dr. C. C. Rice, of New York; "The Obstetrical Experience of a Country Practitioner," by Dr. J. V. Kendall, of Baldwinsville; a paper (subject to be announced) by Dr. L. Duncan Bulkley, of New York; "A New Means of Treatment of Disease of the Frontal Sinus," by Dr. D. H. Goodwillie, of New York.

All physicians wishing to attend the meeting are informed that the New York Central Railroad Company has consented to issue excursion tickets at the rate of a fare and a half ($4.65), the regular rate being $6.20. It is the intention of the majority of the delegates from New York and its vicinity to go to Albany on the 31st of January, by the 3.30 P. M. train. If a sufficient number take that train, a drawing-room car will be furnished for their exclusive use (additional fare for that car, $1). Gentlemen who can arrange to go on that day and by that train are asked to notify Dr. Clarence C. Rice, secretary of the New York delegation, No. 115 East Eighteenth Street, on or before January 25th. Certificates for tickets can also be had by applying to him.

The Middleton Goldsmith Lectures, under the auspices of the New York Pathological Society, will be given at the College of Physicians and Surgeons, on Tuesday evening, the 25th, and Friday evening, the 28th inst., at 8 o'clock, by Professor M. Allen Starr, M. D., Ph. D., of the New York Polyclinic, on the subject of "Multiple Neuritis and its Relations to Peripheral Neuroses." Members of the profession are cordially invited to attend the lectures.

The Health of Chicago.—According to the Health Department's "Condensed Statement of Mortality" for the month of December, the whole number of deaths was 1,109, including 1 from carbuncle, 5 from cholera infantum, 152 from croup and diphtheria, 2 from diarrhœa, 5 from dysentery, 4 from entero-colitis, 4 from erysipelas, 5 from cerebro-spinal fever, 17 from scarlet fever, 29 from typhoid fever, 8 from typho-malarial fever, 19 from measles, 8 from pyæmia and septicæmia, 4 from whooping-cough, and 3 from chicken-pox.

The Health of Burlington, Vt.—The Health Officer, Dr. J. H. Linsley, reports 22 deaths during the month of December, including 1 from cerebro-spinal fever, 3 from croup and diphtheria, 2 from pneumonia, and 1 from whooping-cough.

The Health of New York City.—During the six months ending December 21, 1886, there were 697 cases of typhoid fever and 219 deaths; 558 cases of scarlet fever and 99 deaths; 104 cases of cerebro-spinal meningitis and 99 deaths; 3,755 cases of measles and 492 deaths; 1,841 cases of diphtheria and 843 deaths; 8 cases of small-pox and 1 death, and 1 case of yellow fever which was fatal. As an evidence of the rapid spread of measles, it may be stated that during the week ending October 19th there were 98 cases reported, and during the week ending December 21st there were 569 cases reported. The greatest number of cases of diphtheria reported during any week of the six months was 126, and the smallest number was 27.

The Chicago Medical Society.—The society's last regular meeting, held on Monday evening, the 17th inst., was noteworthy for the number of short ("ten-minute") practical papers announced on the programme, including "A Clinical Study of Glaucoma," by Dr. Lyman Ware; "A Case of Foreign Body in the Anterior Chamber," and "A Case of Intra-ocular Tumor," by Dr. E. L. Holmes; "The Connection between Ocular and Nasal Diseases," by Dr. B. Bettman; "Some Modifications in the Treatment of Stricture of the Nasal Duct," by Dr. H. M. Starkey; and "Cases of Sympathetic Ophthalmia in Practice," by Dr. W. Franklin Coleman. This arrangement is much to be commended, not only for providing for a number of short papers, but also for grouping the subjects in the single branch of ophthalmology.

Protection against Non-paying Patients.—The "Boston Journal" says that the physicians of Brockton, Mass., have, after several conferences for the purpose of devising means of protection from the class of people known as "dead beats," issued the following manifesto, which was signed by eighteen physicians:

"It is generally understood among members of the medical profession in Brockton that there are in this, as in every city, a certain class who pay no doctors' bills. The method usually adopted by such parties, now familiar to all physicians, is to employ first one and then another, retaining each until such time as compensation is requested, when the physician in attendance is dropped and another called, to be victimized in the same manner. That our purpose may be better understood by the public, we wish to state that no class of professional men contribute more willingly to the relief of suffering humanity than do members of our profession. A glance at our books would satisfy the most incredulous upon this point, and to the appeal of the honest and worthy poor none will more cheerfully and quickly respond. But, as a measure of protection against the professional dead beats, it is hereby agreed by the undersigned that we will publish a list to be known as the 'dead-beat list.'

"First, of such parties as, having employed one or more of our number, have for a year failed to make payment or just explanation of neglect.

"Second, of such parties as, leaving town with bills unpaid, fail to arrange a satisfactory settlement; and such list shall be kept for daily reference in the offices of the undersigned.

"In forming this list chance will be given each party to settle his or her account, as notice of intention will be sent to our agent before the name is published. And we hereby pledge ourselves to refuse attendance upon such parties as may appear upon this list until satisfactory settlement is effected through our agent, unless circumstances of charity seem to warrant such attendance. Care will be taken in forming the list and making additions thereto to discriminate between worthy and unworthy poor, our object being to protect ourselves against dead beats."

The New York Academy of Medicine.—At the next meeting of the Section in Laryngology and Rhinology, Tuesday evening, the 25th inst., the programe will include "A Contribution to the Study of Diseases of the Uvula," by Dr. Wendell C. Phillips; "A Case of Foreign Body in the Nose and Antrum," by Dr. S. O. Vander Poel; and a demonstration of a patient on whom partial extirpation of the larynx has been performed, by Dr. A. G. Gerster and Dr. J. W. Gleitsman.

At the meeting of the Section in Obstetrics and Diseases of Women and Children, Thursday evening, the 27th inst., Dr. S. Henry Dessau will read a paper on "Certain Peculiar Features of Bronchitis as it occurs in Children," and the annual election will be held.

The Section in Materia Medica and Therapeutics will meet next Friday evening, the 28th inst. Dr. Seneca D. Powell will read "Histories of Cases of Pulmonary Disease Treated with Inhalations of Ozone," Dr. Joseph O'Dwyer will demonstrate intubation of the larynx on the cadaver, and Dr. Andrew H. Smith will read a paper entitled "Suggestions as to the Study of Different Antipyretics in relation to Different Causes of Pyrexia."

The College of Physicians and Surgeons.—The building and lot on the corner of Twenty-third Street and Fourth Avenue are said to have been sold for the sum of $160,000. Possession is to be given the purchaser in September next, if the new college building on Tenth Avenue is completed by that time.

"The Living Skeleton," as Isaac W. Sprague, who for several years has been a familiar feature in the dime museums, was called, died last week at Rockland, Mass., from pneumonia. An autopsy was made by Professor W. E. Whitney, of the Harvard Medical School, who found the organs of the body, with the exception of the lungs, in a healthy condition. The skeleton-like appearance of the body, which weighed only forty pounds, was due to muscular atrophy of supposed spinal origin, there being a marked lateral curvature of the spine.

The Massachusetts State Board of Health has made its first annual report to the Legislature, on the subjects of water-supply and drainage. After referring to the condition of the water in many of the Massachusetts rivers used as sources of water-supply, and showing how their pollution is increasing, the report recommends that for one year at least chemical and, when necessary, biological examinations should be made once a month of all waters supplied for domestic purposes by water boards, water commissioners, and water companies within the State, and that thereafter such examinations should be made at intervals not exceeding six months, partly for the purpose of assuring to the various cities and towns all the certainty derivable from this source as to the healthful condition of their drinking-water, but also with the hope of arriving at some more definite information as to the substances constituting the harmful elements and the best means of detecting them. The board asks for $30,000 for the purpose of carrying on its work this year in the directions indicated in the report.

Laryngology at the College of Physicians and Surgeons.—Professor Lefferts's next lecture, to be given on Tuesday, the 25th inst., will be on the subject of "Non-malignant Tumors of the Larynx."

The "Deutsche medicinische Wochenschrift."—It is announced that the place of publication of this excellent journal has been changed from Berlin to Leipsic. Dr. Guttmann remains the editor.

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Original Communications.

THE ANTISEPTIC TREATMENT OF SUMMER DIARRHŒA.*

By L. EMMETT HOLT, A. M., M. D.,

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I HAVE chosen the title summer diarrhœa for this paper, as it indicates with sufficient exactness the clinical symptoms that we all understand, while not committing us to any one of the theories advanced regarding their pathology. As my purpose is to consider a method of treatment, I shall only incidentally discuss the subjects of ætiology and pathology, as these bear directly upon the therapeutics of the disease.

Lest any one may misunderstand me, I wish to state at the outset, and with emphasis, that I do not ignore nor undervalue other methods of treatment than the use of drugs. The question that I propose is, What is the best treatment for that vast number that crowd our dispensaries and other institutions, summer after summer, for whom no change of air is possible, and only limited and imperfect dietetic regulations are practicable?

One conclusion has been long forcing itself upon my mind with increasing strength every summer—viz., that, excepting the comparatively rare cases of pure cholera infantum, nearly all the diarrhœas and intestinal catarrhs of young children are essentially dyspeptic in their origin.

I have been pleased, within the last few days, to find virtually the same statement from the pen of so high an authority as Henoch, of Berlin. All the well-recognized factors in the causation of summer diarrhœa—excessive heat, artificial or improper feeding, and bad hygienic surroundings—unite in this, that they prevent the food in the child's stomach from being digested, in consequence of which it undergoes fermentative or putrefactive changes. It is a combination of the three factors rather than any one alone which produces the resulting dyspepsia.

If it were heat alone, we should expect the greatest frequency of the disease to be at the most tender age—under six months. Such is not the case. Of four hundred and thirty-one patients of my own, only 12·8 per cent. were under six months, while 59·5 per cent. of the cases occurred between the ages of six months and two years. The explanation is obvious. Under six months the great majority of the children of the poorer classes receive breast-milk either exclusively or principally, while from that time on they are accustomed to be fed from the table, or on articles totally unfitted for infantile digestion. It is a striking fact that Hope,† of Liverpool, brings out, in his statistics of five hundred and ninety-one fatal cases of summer diarrhœa in children under two years of age, that only twenty-eight had the breast exclusively; while Ballard ‡ states that of three hundred and forty-one fatal cases occurring in Leicester, only 2 per cent. of the children had had no food but the breast. These statistics show that we are to attribute to the feeding quite as much as to the heat, if not the occurrence of the diarrhœa, at least its fatality.

Heat is a causative factor in many ways. It impairs the child's power of digestion by depression of his nervous energy. It causes thirst from free perspiration and leads the child to take more food than the stomach can take care of, even though it be pure breast-milk. It increases all decomposition in the streets, in the sewers, and in filthy tenements, and these children breathe an atmosphere charged with the products and germs of decomposition. But more important than all else, perhaps, are the changes it causes in the food itself before it is taken into the body. Most of the articles of food are of such a nature that these changes readily take place, even in a few hours, in August weather.

An instance of how quickly diarrhœa is caused by tainted milk came under personal observation not long since, where every one of twenty-three healthy children occupying a ward was taken in a single day with diarrhœa after eating milk which subsequent examination showed to be unfit for consumption.

When we consider the manner in which food is prepared for these children in tenement-houses, the want of cleanliness in utensils and in hands, how it is often left standing for hours in open vessels at the temperature of the room, the wonder is only that so few suffer from diarrhœal diseases during the hot term.

This brings us to the subject of the poisons produced from food, or ptomaines, and their effects. The investigations of Brieger and others upon this subject have let in a flood of light, it seems to me, upon the pathology of some of these cases of diarrhœa.

In the investigation of the well-known Michigan cases of ice-cream poisoning recently, Professor Vaughan has reached the conclusion that the symptoms, prominent among which were the vomiting and purging, were due to an alkaloid developed from the milk, to which he has given the name tyrotoxicon.

Brunton states * that most of the alkaloids which have been obtained from the decomposition of albumin tend to produce diarrhœa.

This knowledge of poisons developed from food is of only recent date—too recent for us yet to say to what degree we may be compelled to reconstruct our pathology of many diseases connected with the organs of digestion. But enough has been already established to lead us to hope that along this line of investigation we may find a solution to many hitherto insoluble problems.

A strong popular prejudice has long existed that there is great danger of the supervention of cerebral symptoms if diarrhœal discharges are abruptly checked. It is also well known that in severe and protracted cases a cessation of the diarrhœa often occurs for a few days before death, coincident with the development of symptoms commonly denominated hydrencephaloid. And now Bouchard tells us, as the result of his investigations upon ptomaines produced within the body, that "the poisonous activity of human fæces is very great even when they are quite healthy. A substance obtained from them by dialysis caused violent convulsions in rabbits. Enough alkaloids are produced in the intestines of a healthy man in twenty-four hours to kill him, provided they were all absorbed and excretion stopped. There seems to be little doubt that the amount of ptomaines produced in disease is greater than in health." *

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* Read before the New York Academy of Medicine, January 6, 1887.

† "Liverpool Medico-chirurgical Journal," July, 1885.

‡ "Brit. Med. Journal," 1883, ii, 363.

* "Disorders of Digestion," chapter "Food and Poisons," p. 291.

Aside from the toxic effects which, it seems very probable, are produced by food-poisons, we have the local effects of undigested food in the stomach and intestines, and these it is which produce the catarrhal changes. The great proportion of these cases begin with vomiting and diarrhœa, the vomiting ceasing usually after the first day or two. The first stools are those of a dyspeptic character, and it is generally not until several days have elapsed that we find proof in the passages of catarrhal inflammation in the bowel.

I need not cite statistics, as it is the all but universal testimony that inflammatory changes are mainly in the colon; it is uncommon to find any changes in the small intestine further than a swelling and redness of Peyer's patches, and slight congestion of the lower part of the ileum.

In the colon itself the most marked lesions are found in the cæcum and sigmoid flexure, just where the irritating substances are longest detained in their movement onward. The colitis, then, I think, is to be looked upon, in most cases at least, as secondary and consecutive, depending upon how long the morbid process has been suffered to go on before it is checked.

Regarding a special microbe as a cause of summer diarrhœa, we lack as yet sufficient evidence of its existence. Immense numbers of bacteria of many varieties are found in the discharges. Baginsky † asserts that often the small white lumps seen in the passages and called curds are made up of nothing but masses of bacteria. This same investigator has isolated one bacillus which, he thinks, is peculiar to cholera infantum; but, as Clado and Damaschino have settled upon a different one, and as experiments with pure cultivations from neither have yet been made, we must consider the subject as still *sub judice.*

We are now prepared to consider the different indications for treatment. These may be grouped under four heads:

1. To clear out the bowels.
2. To stop decomposition.
3. To restore healthy action in the intestine.
4. To treat the consecutive lesions.

The bowels should be emptied as completely as possible, as the first step in the treatment, and for precisely the same reasons that the surgeon cleanses a wound thoroughly before applying his antiseptic dressing. It is a rule laid down in all text-books that if an antecedent constipation has existed, or if there is evidence that indigestible food has been swallowed, it is the proper thing to begin with a cathartic.

I wish to go a little further than this, and say that in all cases, whether such a history is obtained or not, it is a good rule to follow. If not decomposing and irritating food, we have almost always altered secretions undergoing the same putrefactive changes.

If the stomach is not very irritable, nothing, to my mind, compares in efficiency with castor-oil. If there is severe vomiting, a copious injection of pure water at a temperature of about 65° F. may be used. To be efficient, this must be large enough to reach the ileo-cæcal valve. This, by experiment on the cadaver, I have found to be about one pint in a child six months, and about two pints in one two years old. It should, of course, be given slowly, with a fountain syringe, the abdomen meanwhile being gently manipulated.

I have had abundant proof, in the cases occurring among the children at the Infant Asylum, that a great many of the mild cases, if taken promptly at the start, can be cured by the castor-oil alone, provided suitable regulation of the diet after it can be enforced. In severer cases, and especially those in dispensary practice, it produces temporary improvement only. The value of oil in these cases is well understood by the laity—better, I sometimes think, than by many in the profession. I kept a record for a time, and found that about one fourth of all the patients brought to the dispensary for treatment had been previously given the oil at home, usually at the outset. The almost invariable testimony was that on the day or two following decided improvement occurred; by the third day, however, they were usually as sick as ever.

There is obviously no need either of cathartics or of irrigation of the bowel in cases where, after two or three fæcal or semi-fæcal movements, the discharges consist of almost pure serum, large in amount, alkaline in reaction, and odorless.

To meet the second and third indications—*i. e.*, stop decomposition and restore a healthy action in the intestine—two things are requisite: the administration of an antiseptic, and attention to the diet.

The antiseptic must be given in small doses and frequently—in small doses, lest the stomach reject it; and frequently, as it is a continuous effect that we desire. It must be of such a nature and in such a form as to be easily administered. A nauseous prescription, no matter how excellent its ingredients, should never be given, and need never be. I have seen many cases where, I am sure, the medicine given was the chief factor in keeping up the gastric disturbance. It must be one, if possible, which has the effect of restoring the tone of the alimentary tract. After experimentation with various drugs, my own preference is in favor of the salicylate of sodium. The details will be given in a subsequent part of the paper.

If there is much vomiting, no food whatever should be given for from twelve to twenty-four hours. Thirst can be satisfied by giving either carbonic-acid water or thin barley gruel, cold, and a teaspoonful at a time. If the child is at the breast, as soon as vomiting is controlled it can gradually be brought back to its accustomed diet, great care being used that too much food is not given.

In children under two years not fed at the breast it is better to *withhold milk entirely.* This has been a subject of careful investigation during the past summer at the New York Infant Asylum, and both the resident physicians and myself have had this proved to our satisfaction by a large number of cases. Peptonized milk is very much less likely to disagree than either condensed milk or fresh cow's milk. But in many even this caused an aggravation in the intestinal symptoms, particularly in severe and protracted cases. Again and again have I seen relapses brought on when milk was added to the diet in cases where the stools had been practically normal for two or three days.

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* Brunton, *op. cit.*, p. 290.

† "Verdauungskrankheiten der Kinder," 1884.

Our "no-milk diet," as it came to be known, comprised the following articles: Wine whey, chicken and mutton broths, Mellin's food with barley gruel, expressed juice from rare beefsteak or roast beef, and in a few cases raw scraped beef. With this variety we usually had no difficulty in dispensing with milk.

The fourth indication, or the treatment of consecutive lesions, is not so easily met. As hinted above, the essential changes are in the colon, and consist practically of little else than a follicular colitis.

When the condition of ulceration is reached, I believe the use of astringents by the mouth to be absolutely useless. Cases treated by such means I have nearly always found to run on until cool weather came. What, in fact, ought we to expect from fraction-of-a-grain doses of nitrate of silver or acetate of lead when we remember that their action is needed upon the last four feet of the bowel? Bismuth in large doses seems more plausible, but practically it has failed with me five times where it has succeeded once.

I have settled upon three things as valuable:

First, as careful attention to the diet as during the acute stages, and in recent cases. Deviation from dietetic rules has been the most frequent cause of relapses.

Secondly, the continuance of the use of the antiseptic as the only sure means of checking intestinal decomposition, and hence stopping the irritation.

Thirdly, the whole large intestine should be washed out once every day, either with pure water at a temperature of about 65° F., or with a weak antiseptic solution, or with an astringent solution. Of the former the best are probably benzoate and salicylate of sodium; of the latter, the nitrate of silver and tannic acid.

Before taking up the use of antiseptics historically, I wish to call attention to this fact: that, except opium, with regard to the value of which in summer diarrhœa there has always been much controversy, almost all the drugs that have held their place for the last twenty-five or fifty years are now universally recognized as antiseptics—some of them very powerful ones. Prominent among these I may mention bismuth, calomel, the mineral acids, especially sulphuric, the chloride and sulphate of iron, and the nitrate of silver. It seems to me altogether probable that the value of these drugs, for value they certainly possess, depends not upon their astringent action, as we have so long been taught, but upon their effect as antiseptics.

The earliest treatment of diarrhœal diseases by pure antiseptics of which I have been able to find record was by Mayes[*] in 1846; the drug he used was *creasote.* He states that it should be preceded by a cathartic, since diarrhœal diseases are oftenest caused by undigested food in the intestine in a state of decomposition. In his second publication[†] he confirms his earlier impressions.

In 1847 an article on the value of creasote was published by Beirão.[‡]

In 1849, Spinks,[#] after using creasote extensively, published some statistics of two hundred and twenty-four cases of simple diarrhœa. Ninety-three were treated by opium, chalk, etc., in all of which the disease lasted several days, and was followed by flatulence. One hundred and thirty-one cases were treated by creasote alone, "in all of which the diarrhœa immediately ceased." This drug he used in twelve cases of "rice-water purging," with equally good results.

In 1851, Kestevan,[‖] influnceed by the writer just mentioned, published his results of the use of creasote in over one hundred cases of diarrhœa and dysentery; in no single case did improvement fail to occur. He thought it more efficient than any other drug in stopping the vomiting, purging, and pain.

Woodson[△] the next year still further confirmed Kestevan's experience, after the use of creasote in twenty cases in children and in adults. Its action was prompt and invariably successful. He places it far above opiates.

Further testimony to the value of creasote was borne by J. G. and W. F. Westmoreland,[◊] who had seen cases of malignant army dysentery cured by it in large doses, and others of a protracted character which had resisted for months all the ordinary methods used.

Davis,[↧] in 1872, spoke in high terms of the value of carbolic acid in diarrhœal cases, but, with this exception, for the last twenty years the drug is scarcely mentioned in current literature, and then usually only as a means of controlling vomiting.

Oil of Naphtha was used as early as 1849 by Lavisotte,[↕] whose published experience, although embracing reports of ten cases only, was still enough to show that some very obstinate cases of diarrhœa, which had resisted for months the usual treatment of opium and astringents, could be cured by naphtha alone in a few days.

Two years later, Mavel[⇞] contributed to the same subject reports of four chronic cases of diarrhœa promptly relieved by naphtha.

Salicin was first recommended in diarrhœal diseases, so far as I have been able to learn, by Mattison, in 1873.[**] He alleged for it, after considerable use, great superiority over opium and astringents in the treatment of cases of protracted diarrhœa, both in children and in adults.

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[*] "Southern Med. and Surg. Journal," 1846, ii, 583.

[†] *Ibid.*, 1847, iii, 151.

[‡] "Jour. Soc. de Sci. Med.," Lisbon, 1847.

[#] London "Med. Gazette," 1849, 254.

[‖] *Ibid.*, 1851, 235.

[△] "Western Jour. of Med. and Surg.," Louisville, ix, 1852, p. 289.

[◊] "Atlanta Med. and Surg. Jour.," vii, 1866–'67, p. 249.

[↧] "Boston Med. and Surg. Jour.," Jan. 4, 1872.

[↕] "Gazette des hôpitaux, 1849, i, p. 46.

[⇞] *Ibid.*, 1851, i, 565.

[**] "Southern Med. Record," 1873, p. 671.

During the next three or four years numerous articles appeared in the Southern medical journals, by Tucker,[*] Bishop,[†] T. C. Smith,[‡] Hughson,[#] Tidd,[‖] and others, confirming the statements made as to the great value of salicin. Many of the gentlemen referred to had used it extensively, but all were inclined to regard its mode of action as tonic or specific. In 1877 Mattison published[△] a second article, collecting quite a large number of cases, the experience of all who had used salicin being that, especially in protracted cases, it was the most valuable drug we possessed.

I have found but scanty reference to this treatment since that date, except by S. W. Smith,[◊] in 1884, who states that, as early as 1858, the value of willow charcoal was made known to him by some sea-captain upon the Mediterranean, and that since that time he had regarded salicin as "a sheet-anchor in diarrhœal cases." He calls special attention to its antiseptic properties, which, he states, exceed those of carbolic acid.

Salicylic Acid and its Salts.—The acid was first applied to the treatment of intestinal diseases by Stephanides,[‡] who reported in 1875 two cases of obstinate dysentery promptly relieved by this drug. The acid was further employed in the same disease by Abelin in 1877.[↕]

In 1879, Kilner[⧧] published the results of some extensive experiments with the salicylates of bismuth and calcium. He speaks of them in the highest terms in cases depending upon summer heat, also those in autumn from sudden changes in temperature, and in all cases where indigestion and disturbance of the stomach are present.

In 1880, Hutchins,[**] of Brooklyn, reported twenty-seven cases of severe serous diarrhœa in young children. He was led to use the drug from reading the article just referred to, and abundantly confirmed the statements made regarding salicylate of calcium, which he had employed. He used the single drug only, and in every case its administration was almost immediately followed by a cessation of the serous discharges. Slight catarrhal diarrhœa continued in some cases for a few days, but in none was there any recurrence of the watery stools. Segur, of Brooklyn, has used the salicylates in the treatment of the diarrhœa of phthisis, and both he and Hutchins speak in very high terms of its value here. In a recent personal communication to me, Dr. Hutchins states that subsequent experience has not changed his opinion regarding the great value of the salicylates, particularly in diarrhœas with serous discharges tending to cholera infantum.

In 1881, Calleja[††] published an article on the value of salicylate of sodium in diarrhœal diseases.

In 1885 Northridge[*] published eight cases treated by the salicylate of calcium. This writer believes firmly that it is to its antiseptic properties that the success of the salicylic-acid treatment is due.

During the present year Shank[†] has written upon the value of the salicylate of sodium in the treatment of diarrhœal disease in children, but he gives us no particulars regarding the cases in which it was used.

Braithwaite[‡] has spoken of the great value of the salicylate of iron in many diarrhœal affections, especially where the stools were offensive.

Naphthalin was introduced as an antiseptic in intestinal diseases by Rossbach[#] in 1884. The advantages stated for it were that it was a powerful antiseptic, that it was not toxic, and that, as it was insoluble both in alkalies and in acids, we could be sure of its local action. He found it of great value in old intestinal catarrhs of adults, and used it in twenty-four cases in children with the most gratifying results.

The same year Cognali[‖] published six cases in which naphthalin was used with negative results; all were chronic, and all in adults.

In 1885, good results were published by Pauli[△] and Pribram[◊] from the use of naphthalin in the diarrhœa of children. Falkenberg[‡] used it in numerous cases of dysentery with uniformly good results. This writer quotes from Karelin, who stated that the naphthalin treatment had "done wonders" in dysentery in the army, and also from Kusmin, whose experience in the Foundling Asylum at Moscow confirmed the good reports already given.

During the present year naphthalin has been recommended by Bouchard[↕] in combination with iodoform and charcoal.

Bichloride of Mercury.—This has in several editions of Ringer's "Therapeutics" been recommended in dysentery. Communications regarding its use, both in diarrhœa and dysentery, have been published by Ravenberg[⧧] in 1878, Reed[**] in 1879, Shultz[††] in 1880, and Millard[‡‡] and Morton[##] during the present year. With one exception, particulars regarding the kind and number of cases treated, and exact results, have been omitted.

Shultz states that he has treated one hundred and twelve cases of severe dysentery with this drug, with only one fatal result. He thinks it deserves the title almost of a specific in severe cases of dysentery. In mild cases, opium and calomel might succeed, but in severe ones seldom.

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[*] "Southern Med. Record," 1873, p. 590.

[†] *Ibid.*, 1874, p. 585.

[‡] *Ibid.*, 1875, p. 328.

[#] "Charleston Med. Jour.," ii, 1875, p. 297.

[‖] "Detroit Rev. of Med. and Pharmac.," xi, 1876, p. 7.

[△] "Proceedings of the Med. Soc. of the Co. of Kings," i, 1877, p. 248.

[◊] "Brit. Med. Jour.," ii, 1884, p. 711.

[‡] "Wien. med. Presse," xvi, 1875, p. 297.

[↕] "Allg. med. Central-Zeitung," 1877, Nos. 37, 38.

[⧧] "St. Thomas's Hosp. Reports," ix, 1879, p. 21.

[**] "Proceedings of the Med. Soc. of the Co. of Kings," 1880, p. 223.

[††] "Rev. de med. y Cir.," Madrid, 1881, 97, p. 145.

[*] "New York Med. Jour.," Aug. 29, 1885.

[†] "Archives of Pædiatrics," July, 1886.

[‡] "Brit. Med. Journal," July 17, 1886.

[#] "Berlin. klin. Wochenschrift," Nos. 42 and 46, 1884.

[‖] "Gazz. med. ital. Lombard.," Milan, vi, 1884, p. 465.

[△] "Berlin. klin. Wochenschrift," xxii, 1885, p. 153.

[◊] "Wien. med. Wochenschrift," xxxv, 1885, p. 242.

[‡] "London Med. Record," Dec., 1885, from "Voënno-Sanitaroë," 1885, No. 45.

[↕] "Revue de therapie," May 15, 1886.

[⧧] "Med. Record," xiv, 1878, p. 4.

[**] "Philadelphia Med. Times," 1879–'80, p. 207.

[††] "Louisville Med. Herald," ii, 1880–'81, p. 341.

[‡‡] "Brit. Med. Journal," July 31, 1886.

[##] "Med. Record," Sept. 18, 1886.

During the past year or two several other drugs have been proposed, following out the idea of antiseptic treatment. Resorcin has been advocated by Baginsky[*] and Faludi,[†] chloride of potassium by Moncorvo, bisulphide of carbon by Dujardin-Beaumetz,[‡] and benzoate of sodium by Guaita.[#] Each writer alleges good results with his peculiar mode of treatment.

It would seem that enough facts have been given to the profession to establish the point that a great many other drugs besides opium, bismuth, chalk, and castor-oil possess real value in the treatment of diarrhœal diseases. Yet it is marvelous to see how wedded we have become to these old methods. In looking over a dozen of the most recent text-books on diseases of children, I find the treatment of summer diarrhœa described in almost the same words as those used by Eberle, Condie, and Dewees nearly half a century ago.

In the preparation of this paper I have endeavored to ascertain what drugs were most used in public practice in this city. In response to a circular letter sent out I have received information regarding the treatment of summer diarrhœa at the following institutions: Nursery and Child's Hospital, Foundling Asylum, Infant Asylum, Infants' and Children's Hospitals on Randall's Island, St. Mary's Hospital for Children, Infirmary for Women and Children, Demilt, New York, Northern, Northwestern, Eastern Dispensaries, Polyclinic, and the Out-door Department of Bellevue and that of Roosevelt Hospital. I wish here to thank the gentlemen who have been kind enough to furnish me with the particulars sought. The reports of these institutions show that upward of forty thousand children come under treatment annually. Roughly estimating from my own hospital and dispensary experience, I should say that at least twenty-five thousand of these come for diarrhœal diseases.

These twenty-five thousand cases are treated as follows:

Bismuth is used largely in every one of the fourteen institutions.

Opium in some form is used everywhere; Dover's powder and paregoric generally. Opium is an ingredient in nearly every compound prescription given. Many physicians have testified that they relied almost entirely upon bismuth and opium.

Castor-oil as a preliminary step was much used in six institutions, followed usually by bismuth and Dover's powder.

Castor-oil emulsion, with opium, containing from three to ten drops of the oil and about the same quantity of paregoric to the dose, was extensively used at three places.

Chalk-mixture, usually combined with paregoric and some vegetable astringent, is a standard prescription in almost every dispensary, and is largely used.

Calomel, in small doses, is much used at three places.

Rhubarb and soda are largely used in four places, usually in conjunction with opium.

Ipecac is used at two places, aconite at one, pepsin largely at one, sulphuric acid and sulphate of magnesium mixture at one, benzoate of sodium at one, iodoform with opium and pepsin at one, coto bark at one, astringent injections, usually of nitrate of silver, in three places.

One physician begins his treatment with oil to clear out the bowels. Beyond this point he has come to the conclusion "that all drugs are useless, particularly opium." His reliance after clearing the bowels is upon careful feeding.

Morphine and atropine hypodermically had given good results in some bad cases of cholera infantum in one hospital, though it was admitted that in other similar cases they had been useless.

The following is my personal experience with similar modes of treatment in dispensary cases: I have collected and tabulated from my history-books three hundred cases of which I had sufficient data to enable me to draw conclusions from them. They are scattered through three summers, and include all the cases in which the result of treatment was recorded. They were treated, with but few exceptions, by one of the following methods: (1) A compound prescription, consisting of chalk-mixture, paregoric, and some vegetable astringent; (2) the same, preceded by castor-oil; (3) an emulsion of castor-oil and paregoric, containing from three to eight minims of each, according to age; (4) bismuth and Dover's powder, frequently but not always preceded by castor-oil.

TABLE I.

Three hundred cases treated by opium, bismuth, astringents, and castor-oil.

Duration of Treatment.	Cured.	Improved.	Unimproved.	Died.
2 days or less.........102	40	44	13	5
3 to 4 days..... 68	27	23	16	2
5 to 6 days........... 44	20	17	4	3
7 to 9 days........... 46	17	12	13	4
10 days and over...... 40	12	11	9	8
Total..............300	116	107	55	22

Inasmuch as twenty-five of the cases treated two days, and ten of those treated from three to four days, were put down as "greatly improved," the probabilities are strong that if they had been followed up a little longer they could have been transferred to the column "cured." This would raise the "cures" to 151, or 50 per cent., and reduce the improved to 82, or 27 per cent.; unimproved, 18·3 per cent.; died, 7·3 per cent.

TABLE II.

Showing previous duration of disease, and results in two hundred and eighty-four of the same cases.

Previous Duration.	Cured.	Improved.	Unimproved.	Died.
2 days or less........ 79	34	24	17	4
3 to 4 days.......... 80	36	29	7	8
5 to 6 days.......... 16	9	4	2	1
1 to 2 weeks......... 83	27	36	15	5
2 to 3 weeks......... 5	2	1	1	1
4 weeks and over..... 21	2	12	6	1
Total...... 284	110	106	48	20

Under four days' duration, 55 per cent.; over one week's duration, 38 per cent.

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[*] *Op. cit.*

[†] "Pest. med.-chirurg. Presse," Buda-Pesth, xviii, 1882, p. 806.

[‡] "Therapeutic Gazette," 1885, No. 3.

[#] "Archives of Pædiatrics," 1884, p. 380, from "Gazz. degli ospitali," 1884, 26.

TABLE III.

Showing variety and severity of the same cases.

Diarrhœa, severe	93
Diarrhœa, moderate	175
Colitis and entero-colitis	28
Cholera infantum	2
Total	298

In 129 cases vomiting was also present.

The results given in the foregoing tables are certainly nothing to be proud of. And yet I venture to affirm that they are quite as good as other men under similar circumstances have obtained with the same methods of treatment, as they would find out for themselves if they took the trouble to record and then analyze their results critically. My own "impressions" regarding the value of many drugs, after using them, I have so often found erroneous when an appeal to cold facts was had that I have become very loath to accept the "impressions" merely of others.

Still it must be remembered that many of the above-mentioned were bad cases, and all were seen under the worst surroundings. So I hope no one will for a moment think of comparing them with results obtained among the better classes in private practice.

The dietetic regulations above laid down were carried out so far as practicable, with the single exception that in the earlier cases abstinence from milk was not so strongly and so universally insisted upon. Recourse was had to cold sponging and the cold bath where the temperature was high, to alcoholic stimulants in almost all protracted cases, and to day-excursions upon the water on the Floating Hospital.

Could anything more be done for these unfortunate children than I was doing? was a question I often revolved in my mind, as many of them came back day after day and week after week, while I shifted about from bismuth and Dover's powder to calomel and chalk, and from calomel and chalk to castor-oil and opium, etc., often with improvement, but too often, alas! but temporary, until patience was exhausted, and they sought advice elsewhere, much to my relief, and I hope to theirs also.

It was a year ago last summer that the monograph of Baginsky, already mentioned, came into my hands. To him I give the credit of starting me in what I believe to be the correct and rational method of treatment. He had used evacuants and antiseptics largely, and commended them. He regarded resorcin as the most valuable antiseptic in intestinal diseases, and, though my own experience has led me to differ with him here, I think his views in the main correct.

Quite an extensive experience with the salicylate of sodium in various dyspeptic disorders of adults led me, without knowing to what extent it had been already used, to try it here.

The following table gives the results obtained with this treatment. The cases were not selected; it was used indiscriminately in all varieties and all stages. In about two thirds of the cases it was preceded by castor-oil. In one or two cases with great nervous irritability a grain of Dover's powder was given once or twice a day for this symptom merely. With these exceptions, no other drugs were used:

TABLE IV.

Showing duration of treatment and results in eighty-one cases treated by salicylate of sodium.

Duration of Treatment.		Cured.	Improved.	Unimproved.	Died.
2 days or less	29	20	6	3	..
3 to 4 days	31	22	6	2	1
5 to 6 days	12	11	0	1	..
7 to 9 days	7	6	1	..	..
Over 10 days	2	1	1	..	..
Total	81	60	14	6	1

This would give the following results in percentages: Cured, 66 per cent.; improved, 19·7 per cent.; unimproved, 7·4 per cent.; died, 1·2 per cent.

This does not quite state the facts in the case. It will be noticed that all of the twenty-one cases except three, in which treatment was followed up for over four days, were cured. Further, in the "improved" column, eight of the twelve patients, taking the drug for four days or less, were marked "greatly improved," and it is highly probable in all of these cases that, had treatment been continued a little longer, a cure would have resulted. Making these changes as we have done in Table I, we shall have: Cured, 84 per cent.; improved, 7·4 per cent.; unimproved, 7·4 per cent.; died, 1·2 per cent. This certainly does not overstate the results obtained in the foregoing cases.

TABLE V.

Showing previous duration of disease, and results of eighty-one cases treated by salicylate of sodium.

Duration.		Cured.	Improved.	Unimproved.	Died.
2 days and less	22	19	2	1	..
3 to 4 days	18	14	1	3	..
5 to 6 days	8	6	2	..	..
1 to 2 weeks	20	12	7	1	..
2 to 3 weeks	3	3	..	..	..
4 weeks and over	10	6	2	1	1
Total	81	60	14	6	1

Under four days, 49 per cent. Over one week, 40 per cent.

Some of the most striking results seen from the drug were obtained in the cases of long standing. Thus, all three of the cases of three weeks' duration were cured, the average duration of treatment being 3·6 days.

Of the ten cases which had lasted four weeks and over, six were cured, the average length of treatment being 5·6 days. One of the "improved" patients took the medicine for about four days with great benefit, and was well in ten days or two weeks without further treatment. The other had had entero-colitis all summer, did not take the medicine over three days, and was greatly improved, but it was then discontinued, and I learned a week later that the case had relapsed.

The six "unimproved" cases are interesting and deserve something more than mere enumeration, as they illustrate quite well some of the difficulties in treating these cases.

Three of the patients were brought to the dispensary but once. All of these were recent cases, and only one was severe. Prompt relief not being evident, physicians were summoned to the house in two cases, and the third patient was taken to another dispensary three days later. I have no means of knowing how much or how little of the medicine was given.

A fourth patient with severe diarrhœa, of eight days' standing, the passages being watery in character, took the salicylate for two days without benefit; the drug was continued, but the case was never heard from again.

A fifth patient had had a severe entero-colitis for two or three months. Salicylate of sodium was given for five days, and then opium and astringents were used for four days, but without benefit in either case, and the patient was not traced farther.

The sixth patient took the drug ostensibly for four days without improvement. Subsequent events proved the mother's statements concerning the case to be utterly untrustworthy, and it is extremely doubtful if any directions were carried out as given.

The single fatal case was as follows: It was that of a wasted, wretched child in its fourth severe attack during the summer. The salicylate was given for four days with the effect of controlling the diarrhœa; vomiting, however, continued, and the child wasted steadily and died about two weeks later.

TABLE VI.

Showing type and severity of salicylate-of-sodium cases.

Colitis or entero-colitis	23
Diarrhœa, severe	18
Diarrhœa, moderate	39
Genuine cholera infantum	1
Total	81

In twenty-nine cases vomiting was also present when the patients came under treatment; in many more it was a prominent symptom at the beginning of the attack.

TABLE VII.

Showing duration of treatment and results of forty-four naphthalin cases.

Duration of Treatment.		Cured.	Improved.	Unimproved.	Died.
2 days and less	15	7	3	4	1
3 to 4 days	12	11	..	1	..
5 to 6 days	10	6	3	1	..
7 to 9 days	6	5	1	..	..
Over 10 days	1	1	..	..	..
Total	44	30	7	6	1

Cured, 67 per cent.; improved, 15·8 per cent.; unimproved, 13·5 per cent.; died, 2·2 per cent.

The "improved" cases were as follows: One patient was greatly benefited at the end of five days, but the mother stopped attending, and I heard a week later that the case had relapsed. In the second, a chronic case, the patient was greatly improved after two days; took no more medicine; ultimate recovery in two weeks. A third, also chronic, was doing nicely after two days' treatment, when measles developed which proved fatal. A fourth the notes simply state to have been "improved" after one week's treatment. A fifth, with severe gastro-intestinal catarrh, had diarrhœa controlled after two days' treatment, but vomiting continued; the patient could not be found when looked for afterward to learn the final result. A sixth, also not found, with severe chronic colitis, was greatly improved when last seen, after being under treatment for five days. The remaining patient would not take the medicine in the doses directed. It was stopped after three days, only slight improvement having occurred. Thus it appears that in no case, except possibly the fourth, was there a real test as to the value of the treatment.

In one of the six "unimproved" cases, a recent one, the patient took the drug for four days without any benefit, ultimately recovering at the end of two weeks without further treatment.

A second patient, a boy nine years old, who had had dysenteric stools for a week, after two days' treatment was worse; opium, bismuth, and salicylate of sodium subsequently failed also, and he was then lost sight of.

A third patient, with a moderate diarrhœa of two weeks' standing, was no better after taking naphthalin, but was promptly relieved by the salicylate of sodium.

In a fourth case, one of chronic diarrhœa of four weeks' standing, the patient took the medicine for two days only; I learned subsequently that he had not been relieved, and that the disease lasted a month longer.

A fifth case was similar, except that the patient recovered in two weeks instead of four.

The remaining case, a severe diarrhœa of a month's duration, was not improved after five days' treatment. I learned that no further treatment was employed, and the child died two weeks later.

The only fatal case occurring while under treatment was a severe one, where vomiting was very persistent; there was no relief, and death took place two days after the patient was first seen.

TABLE VIII.

Showing previous duration of disease, and results in naphthalin cases.

Duration.		Cured.	Improved.	Unimproved.	Died.
2 days and less	17	16	..	..	1
3 to 4 days	8	4	3	1	..
5 to 6 days	3	2	..	1	..
1 to 2 weeks	9	6	1	2	..
2 to 3 weeks	2	1	1	..	..
4 weeks and over	5	1	2	2	..
Total	44	30	7	6	1

Less than four days' duration, 56 per cent.; over one week, 36 per cent.

TABLE IX.

Showing variety and severity of naphthalin cases.

Colitis and entero-colitis	13
Diarrhœa, severe	9
Diarrhœa, moderate	19
Total	41

Vomiting was present in ten cases; in several severe.

TABLE X.

Showing results in twenty-seven cases treated by resorcin.

Duration of Treatment.		Cured.	Improved.	Unimproved.	Died.
2 days or under	9	6	1	2	. .
3 to 4 days	11	6	2	3	. .
5 to 6 days	1	1	. .	. .	. .
7 to 9 days	4	1	2	1	. .
Over 10 days	2	1	1	. .	. .
Total	27	15	6	6	. .

Cured, 55 per cent.; improved, 22 per cent.; unimproved, 22 per cent.

TABLE XI.

Showing previous duration of twenty-five resorcin cases.

Duration of Disease.		Cured.	Improved.	Unimproved.	Died.
2 days or less	10	5	2	3	. .
3 to 4 days	5	3	1	1	. .
1 to 2 weeks	8	5	2	1	. .
4 weeks and over	2	. .	2	. .	. .
Total	25	13	7	5	. .

Four days' duration or less, 60 per cent.; over one week, 40 per cent.

TABLE XII.

Showing variety and severity of resorcin cases.

Colitis or entero-colitis	4
Diarrhœa, severe	7
Diarrhœa, moderate	14
Total	25

Vomiting was present in ten cases of diarrhœa when coming under treatment.

The cases treated by resorcin, as regards variety, severity, and previous duration, it will be seen, correspond very closely with those treated by naphthalin and salicylate of sodium. Experimentation with the three drugs was carried on at the same time. Yet it soon became evident, as the tables show, that it was not nearly so effectual as either the salicylate or naphthalin. Castor-oil was used as a preliminary step in about the same proportion of cases as with the two latter drugs.

The use of the same drug at the Infant Asylum among a different class of patients led to about the same conclusion, although I have not the figures at hand of the number of cases in which it was given.

This experience with resorcin strengthens me much in the opinion that in the naphthalin and salicylate cases it was not to the initial dose of oil and the subsequent attention to feeding alone that the results obtained in these cases were due, since exactly the same measures were used in the resorcin cases, and yet 22 per cent. of the patients were unimproved.

TABLE XIII.

Showing length of treatment and results in twenty-eight bichloride-of-mercury cases.

Duration of Treatment.		Cured.	Improved.	Unimproved.	Died.
2 days and less	10	2	4	3	. .
3 to 4 days	14	3	8	3	. .
5 to 6 days	4	1	2	1	1
Total	28	6	14	7	1

Cured, 21·4 per cent.; improved, 50 per cent.; unimproved, 25 per cent.; died, 3·6 per cent.

TABLE XIV.

Showing duration before treatment of bichloride cases.

Duration before Treatment.		Cured.	Improved.	Unimproved.	Died.
2 days and less	5	2	2	1	. .
3 to 4 days	7	2	4	1	. .
5 to 6 days	2	. .	1	. .	1
1 to 2 weeks	11	1	6	4	. .
3 weeks and over	3	1	1	1	. .
Total	28	6	14	7	1

Four days or less, 42 per cent.; over one week, 50 per cent.

TABLE XV.

Showing variety and severity of bichloride cases.

Colitis and entero-colitis	22
Diarrhœa, moderate	4
Diarrhœa, severe	2
Total	28

These bichloride cases are the only ones in all my tables given which were selected. In point of time they belong not to my later experience while studying the use of antiseptics, but to an earlier time, being contemporaneous with the castor-oil, opium, and astringent cases. Hence many of them were among the worst ones that were treated during that period, and they would have made the results given from that period appear still worse than they do had they not been separately considered. The drug was used not as an antiseptic, but more with the idea of its specific action, in cases of colitis and entero-colitis, as recommended by Ringer and others. It was rarely preceded by a purgative to clear out the bowel, or perhaps the cases would have made a better showing.

The cases are introduced for what they are worth, and, although very strikingly beneficial results were seen in some very obstinate cases, still, on the whole, naphthalin and the salicylate of sodium have been in my hands much more successful in exactly similar cases, as a study of the foregoing tables will make evident.

TABLE XVI.

Showing comparative results from different methods of treatment.

	Number.	Cured.	Improved.	Unimproved.	Died.
Opium, bismuth, castor-oil, etc	300	50 %	27 %	18·3 %	7·3 %
Salicylate of sodium	81	84 %	7·4 %	7·4 %	1·2 %
Naphthalin	44	67 %	15·8 %	13·5 %	2·2 %
Resorcin	27	55 %	22 %	22 %	. . . .

It is unnecessary to compare the cases treated in other particulars. The previous duration of the disease in the different classes does not show any marked variation; they average about the same, except that those treated by the salicylate of sodium were of a little longer standing than those treated by opium, astringents, etc. A comparison of the duration of treatment in the cured cases shows the great superiority of the salicylate and naphthalin, particularly in cases of long standing.

It is evident from this table that theoretical considerations of the value of antiseptics in this disease are fully substantiated by the facts. I have included in these tables none but dispensary cases, since I wished to get at the comparative results in the same class of patients.

It was not my intention to introduce reports of special cases, but the following one illustrates so many points that I will give it, although the result was no more striking than was seen in dozens of others. As one man was convinced by it, others may be:

A boy seventeen months old was seen on the fifth day of his illness, with the physician who had treated the case from the beginning. The stools were first thin and yellow, afterward green, with some mucus and curds. Bismuth in four-grain doses every two hours had been used from the beginning, and on the third day ♏ij of deodorized tincture of opium had been added. Although the number of stools had been reduced from ten to five a day, there had been no change in their character, and the child's condition was growing steadily worse.

When I saw him he was really in a critical condition; his temperature had risen to 103° F.; he had begun to vomit quite often, his pulse was rapid and weak, he had had five stools that morning, and was losing ground rapidly. He was dull and heavy, mostly from the opium. I suggested a dose of castor-oil to be followed by the salicylate of sodium, gr. ij, every two hours. But my friend said: "He is so weak that it seems to me it would be dangerous to do anything to give him any more stools." He consented to give the treatment a trial in view of the hopelessness of the case under the present methods.

I saw him two days later. He greeted me with the remark, "Doctor, I am a complete convert." During the afternoon and night after I saw the case the boy had seven passages. In the next twenty-four hours he had two of nearly normal character, and a slight catarrhal diarrhœa lasted four or five days more, by which time he was well. I never saw a patient gain more rapidly.

The objections raised against the oil in the case related are no doubt felt by many, so prevalent is the idea that the great object of treatment is to arrest the discharges. The opium and bismuth here *had* reduced the number of stools from ten to five a day, and yet the child was getting worse all the time. What was the explanation here of the rise of temperature to 103°, the supervention of vomiting, the great prostration, and the rapid and weak pulse? To my mind these were toxic symptoms dependent on the retention in the bowel of the products of the decomposition of food and altered secretions.

Is not the rational treatment, then, to clear out the intestine as promptly and thoroughly as possible, and then address our energies toward stopping further decomposition? In other words, to treat the cause and not the result?

How should the antiseptics be administered?

The salicylate of sodium I have been accustomed to prescribe in doses of from one to three grains every two hours, according to the age, from three months to three years. In these doses the aqueous solution is tasteless, and can be readily given in the food or drink. I have never seen it produce vomiting, but often have seen severe and persistent vomiting controlled by it.

Naphthalin, although possessing a strong odor, is not disagreeable to the taste. On account of its insolubility, it is best given to children rubbed up with some inert powder, like sugar of milk. It should be used in a little larger doses than the salicylate—*i. e.*, gr. j to gr. v in young children, according to the age.

Resorcin must be used in smaller doses, gr. $\frac{1}{2}$ to gr. ij, at corresponding ages. It is bitter, and not so easily given, though freely soluble in water. The bichloride was used in doses of gr. $\frac{1}{120}$ to $\frac{1}{100}$, but, even in these doses, I have more than once seen it produce vomiting.

In all cases I have insisted upon the antiseptic being given at short intervals, as many small doses are much more likely to succeed than a few large ones.

From the foregoing discussion the following conclusions are drawn:

1. Summer diarrhœa is not to be regarded as a disease depending upon a single morbific agent.
2. The remote causes are many, and include heat, mode of feeding, surroundings, dentition, and many other factors.
3. The immediate cause is the putrefactive changes which take place in the stomach and bowels in food not digested, which changes are often begun outside the body.
4. These products may act as systemic poisons, or the particles may cause local irritation and inflammation of the intestine.
5. The diarrhœal discharges, *at the outset* at least, are to be looked upon as salutary.
6. The routine use of opium and astringents in these cases is not only useless, but, in the beginning particularly, they may do positive harm, since, by checking peristalsis, opium stops elimination and increases decomposition.
7. I do not deny nor undervalue opium in many other forms of diarrhœa than the one under discussion.
8. Evacuants are to be considered an essential part of the antiseptic treatment.
9. Experience thus far leads me to regard naphthalin and the salts of salicylic acid as the most valuable antiseptics for the intestinal tract.

15 East Fifty-fourth Street.

ARTIFICIAL ALIMENTATION.*

By GEORGE DALTON HAYS, M. D.,
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By the phrase artificial alimentation the writer has meant to imply a selective method of nutrition based upon rational conclusions in the mind of the physician, as distinguished from a dietary chosen by the patient or his attendants to gratify the cravings of a perhaps morbid palate.

Dr. Abercrombie is reported to have said that the cause and cure of every disease might be found upon the table. This is, no doubt, a great exaggeration; but, with our increasing knowledge of the diseases introduced into the system through the alimentary canal, it would be rash to attempt to state just how much truth it contains. That, possessed of a better knowledge of the causes of pathological conditions, we shall come to rely more upon nutrition and less upon medication, hardly any one will be inclined to question; or *is* it too utopian to hope that we are ever likely to reverse Dr. Holmes's criticism, "pills and theories in place of wholesome living"?

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* Read before the Clinical Society of the New York Post-graduate Medical School and Hospital, December 17, 1886.

Man is an omnivorous animal, though many investigators think he has become so only through habit. Pigeons have been made to attain their highest physical perfection on a flesh diet, and eagles on bread; the domestic dog and cat have accustomed themselves to a mixed diet, and in doing so have altered their forms from those possessed by these animals in the wild state. Climate, custom, religion, and the different degrees of civilization largely determine the character of man's food and drink—from the rude meal of the savage to that of the Parisian epicure, from the wholly carnivorous diet of the Esquimau to the equally exclusive vegetable food of the Brahman.

For his proper nutrition, we are told, he needs water, sugar, fats, nitrogenous matter, and salts; and with an unerring instinct he is found to have sought these even in his most barbarous state. Either kingdom, animal or vegetable, is capable of supplying him with these wants, but his organic structure seems to approach more nearly to that of the carnivora, and the proportion of the excess of animal over vegetable food seems to bear a close relationship to his purely physical perfection.

All kinds of food contain nutritious principles, which, being extracted by digestion, undergo the further process of assimilation, and in this state serve to repair the body losses.

That this process of digestion is begun in the mouth with the ptyalin of the saliva is pretty generally established; but that the action of this ferment ceases entirely after reaching the stomach has lately been strongly doubted.

The first effect of the gastric juice upon the albuminous matter which it receives is to convert it into syntonin (parapeptone); this is soluble in acids, but not in pure water. The next step is the conversion of this syntonin into peptone.* This is a body very soluble in water, and not precipitated by acids nor alkalies. While insoluble in alcohol, it is precipitated by that liquid with great difficulty from its watery solutions. It is precipitated by tannin, corrosive sublimate, salts of silver, and the biliary acids. These are points of such practical importance in the treatment of diseases demanding the administration of any of these drugs as to require no excuse for their introduction here. Recently Dr. Klikovitch, of Russia,† has conducted a series of experiments to determine the influence of certain remedies upon artificial digestion with the following results:

1. Alcohol: Five per cent. has no influence on peptonization. Five to ten per cent. retards it. More than ten per cent. stops it.

2. Antipyrine: No effect except in very large quantities.‡

3. Iodide and bromide of potassium: Slow digestion in doses of from fifteen to thirty grains.

4. Salts of iron with organic acids do not influence it. Reduced iron and salts with inorganic acids retard it.

5. Calomel and arsenate of sodium have little effect. Sodium salicylate and sulphate, and magnesia in large doses, retard it.

6. Chloral in less than fifteen-grain doses has little effect. Larger doses retard it greatly.*

The gastric juice has some antiseptic properties; hence the immunity with which some people eat partly decayed articles. The American Indians are said to prefer their meat putrid.† The Greenlanders preserve the heads and fins of seal under the grass during summer,‡ and consume them during the winter.

The fact that the stomach does not undergo digestion itself has been explained as due to the saturation of the mucous membrane with blood containing a large proportion of alkaline salts. Dr. Pavy showed that if one or two vessels of the stomach were tied, the parts deprived of the circulating blood underwent digestion and perforating ulcers occurred.

The trypsin of the pancreatic juice is capable of digesting albumin, and it is supposed that these ferments are in some degree complementary to one another.

The pancreatic juice is the only one of the digestive ferments capable of forming a complete emulsion with the fats. This emulsion is none the less complete when the fluid has been neutralized by the acid gastric juice.# It is thought, however, that in this it is in some degree aided by the bile. The pancreatin and the diastase complete the action of the ptyalin on the starches.

Bernard ‖ has shown that the liver has the power of forming glucose out of the blood even in exclusively flesh-feeding animals; and Professor Seegens △ has proved that one of the functions of this viscus is to convert fats into sugar. On digesting oily emulsions with freshly chopped liver at 100° F. for a short time, much more sugar could be extracted from the mixture than from the substances separately.

According to Flint,◊ a prolonged and heavy sleep after a meal is almost always injurious. After a sudden loss of blood, the stomach is incapable of digestion.

We can not decide positively on the digestibility of foods from experiments like Dr. Beaumont's, since the conclusions reached are not in accord with general experience. We are told salt tripe takes one third as long to digest as roast beef; sauerkraut is twice as digestible as soup made of beef and vegetables; but this takes cognizance of the stomach only. How about the duodenum and the ileum?

These are the agents and conditions concerned in digestion which the writer has thought worth while to sum up in the light of recent physiological research.

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* Physiologists sometimes speak of "peptones"—including parapeptone and other modifications of that body.

† "Deutsche Medizinal-Zeitung."

‡ Seventy grains a day, given by the writer for two weeks to fever patients, did not influence the appetite for the worse.

* Dr. Eccles has lately published results of work of same kind—since this paper was written.

† Wilkes, "U. S. Exploring Expedition."

‡ Simmonds, "Curiosities of Food."

# Bernard, "Experimental Studies in Physiology."

‖ *Op. cit.* △ "Pharm. Central-Halle." ◊ "Physiology."

"I like to dine, sir; I like to dine," said the great Dr. Johnson. Who among us does *not* like to dine? But sometimes the digestive powers fail, and we are forced to supply the economy either with the digestive agents or with concentrated or predigested foods.

Of the digestive ferments, the most important is pepsin. This occurs in the market in a great variety of forms, as saccharated, scale or "crystal," wines, and solutions. These differ widely in their power to digest albumin. The writer has had a considerable experience with these different varieties, and yet feels very diffident as to praising or condemning one above the other. Many careful experiments made with different samples have given variable results. This seems to be equally true of the work of other investigators. The scale pepsins, when kept, develop a most disagreeable animal odor, and in several instances among my own patients have been the cause of nausea. This may be due to the fact that many of these preparations are peptone-pepsin—that is, pepsin mixed with a certain amount of digested albuminous matter. It is to this they owe their ready solubility. Still, in most cases this is the form to be preferred if it is obtained fresh, the addition of other bodies, as sugar of milk, glycerin, wine, etc., being rather objectionable than otherwise.

In the same way we have a host of pancreatic preparations. Some practitioners prescribe pancreatin to be taken at the time that the food is ingested. Given in this way, however, it undergoes decomposition in the stomach, being itself digested, and thus rendered incapable of acting on the starches in the intestine, for which purpose it was administered. Others order it in connection with bicarbonate of sodium, to be taken an hour or so after eating. Its efficacy even in this way, however, is open to doubt, the best mode of using it being to pancreatize the food under the proper conditions before it is given.

The other important constituents of the pancreatic juice—trypsin and diastase—have both been isolated. The latter occurs also in grain, where during germination it changes the starch into sugar. It is conveniently employed in the form of malt extract. The digestive ferments may be used with advantage in exhibiting such medicines as copaiba, cubebs, and sandal and cod-liver oils, with which bodies they form emulsions. They have also been employed of late as solvents of false membranes in diphtheria, croup, etc.

As for the foods, their name is legion; their pretensions to a *sine-qua-non* value are boundless. We shall give them but a passing notice.

First, however, a word about bread. We have long been accustomed to hear that many of the evils of modern life owe their origin to our choice of *white* flour. That this is not so an examination of the wheat-berry will show. This has five coats—an epi-, meso-, and endocarp, an episperm, and a tegmen. The three outer ones have no value whatever as nutriment. Within the episperm is a layer of gluten cells, chiefly albuminoids, and finally in the endosperm, which constitutes the bulk of the grain, we find starch mingled with albuminoid cells. In the old process of milling, the perisperm (the part within the episperm) was, on account of its close attachment to the inner husk, largely carried away, leaving the bolted flour the poorer for its loss. Hence the vegetarian Sylvester Graham, whose name is applied to bread made from unbolted flour, was correct in his time in saying such bread contained the most nutriment. The present "gradual reduction" process saves this portion of the wheat. The bran itself is composed of woody fiber and contains absolutely no nutriment. It may have a mechanical value in those of a constipated tendency, but this is all. The wheat loaf and the white flour contain a much larger percentage of phosphates and gluten than the Graham loaf, or unbolted flour. In regard to the dietetics of bread, it is well to recall that we have nitrogeneous matter (gluten) mixed with starch. In baking, a certain amount of this starch is changed to dextrin, and thus made soluble, the quantity formed depending upon the degree of heat. Hence the crust contains more of it than the crumb. Hence also, when we do not wish to supply any waste material, we carry this a step further and furnish our patients with toast.

Of the preparations of raw meat, three or four have a clinically proved value. These products are rich in nitrogenous substances and in phosphates. They are readily digested and absorbed, and can be relied upon for the entire sustenance of the body for considerable periods.

Next come the predigested meat products—beef peptones, or "peptonoids," as they are called. These also vary greatly in quality, many of them being practically worthless. A few of them contain considerable amounts of nutriment in a concentrated and partially digested state. The once highly valued "extracts of meat" and the beef-tea made from these have proved to possess stimulant properties only, and have come to be used largely by old topers when liquor will no longer remain on the stomach.

The malt extracts seem to be Fothergill's great panacea for all forms of malnutrition, and perhaps no one will dispute their great value in certain cases. When long kept, however, or when too much heat has been used in their preparation, the diastatic action of converting starch into sugar seems to be lost; hence samples should be tested in this way before being used.

There have recently been put upon the market a number of "nerve foods." They are all "brain energizers, nerve invigorators, and therapeutic Samsons with a blue-blood pedigree." Tincture of nux vomica, fluid extract of coca, and some flavoring matter is reported to be their composition (W. L. K., in "Drug. Circular").

In milk we have a natural food possessing all the elements for complete nutrition—a food of great value, but one which only a certain proportion of persons can be made to take. It is often spoken of as an ideal food for the ill-nourished. "A serious flaw in this argument," says King Chambers,* "is that, while it is prepared for and truly suits the newly born, we have no evidence that it was intended for or would suit the adult." Asses' milk, goats' milk, and mares' milk closely resemble human milk. Cows' milk contains more casein and less sugar than mother's milk, and has an acid reaction. Mother's milk has an alkaline reaction and appears to contain its casein in the form of a peptonoid.

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* "Diet in Health and Disease," Thomas King Chambers, M. D.

"Milk does not represent a typical diet for an adult, the nitrogeneous matter being in considerable excess of the carbonaceous. This is suitable to the young of all animals whose main duty consists in growing, but not to the full-grown, who has to develop force by the combustion of carbon, and had rather not go on growing." *

Buttermilk or boiled milk will often prove acceptable where ordinary milk disagrees. According to Dr. Reichmann, of Germany,† boiled milk is more rapidly coagulated, and the curds are much softer and more quickly digested than raw milk. Kumyss is another modification of considerable value. If the digestion is feeble we may peptonize the milk; and it should be remembered that, if this is done carefully, there will be no bitter taste developed. All these changes are frequently rung with bottle-fed infants until we find the one most suitable for it. In such cases, it has been remarked, "it is well to change the milk, as it is impossible to change the baby."

According to trustworthy analyses, a marked similarity exists between the composition of grape juice and woman's milk. Under the title "grape cure," an exclusive diet of it is used on the Continent in diseases of the liver, spleen, and kidneys, and after treatment at the baths.

Cod-liver oil is generally accredited a food. Its value depends upon its digestibility. Given in the form of a well-made emulsion, it is absorbed in this state without undergoing further digestion. It should be given *between* meals, when it will pass at once into the small intestine and not disturb the stomach. Fats have their principal use in chronic wasting diseases, but are of occasional service endermically in acute disorders. Butter is a very digestible fat, and, in the state of cream, a very palatable one.

"Peptonized oils" are, to say the least, unscientific in their title.

Physiologists define peptones as bodies resulting from the action of the gastric or pancreatic juice upon albuminous compounds.‡ Hoppe-Seyler # defines them as hydrated albuminous matter, altered only in physical properties.

Arrow-root, rice gruel, barley gruel, panada, eggnog, meat jelly, and broths furnish satisfactory forms of nourishment, suitable when the digestive powers are enfeebled.

As for alcohol, no subject ever had more prolific attention. One must read whole libraries to find out its true place in dietetics, the general consensus of medical opinion, however, being that, properly used, it is a food. It will not of itself, however, sustain life. Dr. Bennett says: "There are no sufficient trustworthy statistics available to prove to what extent diseases may be safely and satisfactorily treated without the aid of alcohol. But that in many cases where it was formerly given it may advantageously be dispensed with, there can not be any doubt. But in the severer forms of fevers I believe its use to be imperative." ‖

A failure to assimilate food is a common cause of disease. While the nitrogenous bodies are converted during digestion into peptones, they are dehydrated again in the liver into proteid bodies. Bernard * found that when albuminous matter was injected into the jugular vein, it was eliminated by the kidneys. If it is injected into the portal vein, so as to pass through the liver, it is not so excreted.

When too large a quantity of nitrogenous matter is taken, or when metabolism does not go on in the liver,† a series of nitrogenous substances is produced, some of which are excreted by the kidneys, while others continue to circulate in the blood. Dr. Lauder Brunton ‡ has shown that peptones in the general circulation act as depressant poisons.

A. Gautier # has obtained from the muscles of animals five new alkaloids (leucomaines), definite in composition and crystalline form, which, when administered to animals, act upon the nerve centers, causing sleep, and in some cases vomiting and purging, similar to the alkaloids of snake-poison. The mental hebetude attending disorders of the liver probably owes its origin to the presence in the blood of some of these products. Professor George Johnson, F. R. S., says: "Renal degeneration is a consequence of long-continued elimination of products of faulty digestion through the kidneys."

This "faulty digestion" has its origin in certain conditions of the liver. One of these conditions is hyperpyrexia. It is in acute febrile disorders that many of the "beef peptones" are said to be of such value. If these bodies are not appropriated in a rapid histogenesis, they will circulate through the blood as poisons, adding their harmful effects to the already over-abundant products of retrograde metamorphosis.

And here we meet with that ever-momentous question, the feeding of fevers. If we break a limb and then attempt to use it, it gives us pain, and from this we draw the very logical conclusion that the first essential to its repair is rest. In acute diseases an absolute loathing for food is among the earliest symptoms. An apparently logical deduction from these premises would seem to be, not to feed our fever patients. And, indeed, this was the routine treatment at one time. As though in irony, the French called this method "diète." Hippocrates thought so much of the value of feeding fevers that this is the most important point of his treatise "On the Management of Acute Diseases," in which he recommends the use of wine and of gruel. These teachings were ignored until Dr. Graves insisted on the necessity of feeding such patients. He was satisfied with barley water and gruel the first few days, but after this ordered chicken broth, meat jelly, and strong soup. "You may perhaps think it unnecessary," he says, ‖ "to give food, as the patient appears to have no appetite. You might as well think of allowing the urine to accumulate in the blad-

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* "Diet in Health and Disease." † "Med. World."

‡ Carpenter, Foster, Flint, Dalton.

"Physiologische Chemie," Berlin, 1878, p. 227.

‖ James Risdon Bennett, M. D. See also writings of Paget, Lauder Brunton, Murchison, Wood, and others.

* *Op. cit.*

† The peptones are converted by it into sugar and glycogenic substances. Seegen, Pflüger's "Archiv," xxviii, p. 990.

‡ "Pharmacology, Therapeutics, and Mat. Medica."

"Journ. of the Chem. Society," July, 1886, p. 634.

‖ "Clinical Lectures," R. J. Graves, M. D., Amer. edition, 1838, p. 258.

der because the patient feels no desire to pass it. You are called on to interfere when the sensibility is impaired and the natural appetite dormant."

This plan is universally adopted now;[*] the difficulty lies in our selection of a suitable diet, and here some knowledge of the causes of fever will aid us.

Hippocrates[†] imagined it to be a salutary effort of nature to throw off noxious matter. Stahl supported this doctrine, but said that, if this matter was too abundant, or the powers of the body were insufficient, fever was hurtful. Boerhaave assumed as the proximate cause of fever a viscid state of the blood. Cullen and Rush[‡] held that the cause was seated in the blood-vessels. For a long time fever was held to be an "inflammation," and was starved. The most rational views were those of Hoffman, who believed the primary factor to be diminished nervous energy. Quite recently Wood[#] showed that, in the fever of pyæmic dogs, in which, of course, there exists a lessened capacity for food, more heat is produced than in healthy fasting dogs, though less than in healthy high-fed dogs. As fasting does not produce fever, and as full feeding in health also does not produce fever, it follows that retention of the produced heat is the important factor in the pyrexia. The variations in the temperature are apparently due to the influence of the vaso-motor system, checking or allowing the dissipation of the heat, though, in addition to this, Wood[‖] believes in a "heat center" independent of the vaso-motor. The high temperature, therefore, seems to be due to agents influencing the nervous system.[△]

The increase of temperature serves to explain certain of the phenomena of fever, and among these the digestive disturbances; not only are the digestive solvents lessened in quantity and impaired in quality by the pyrexia, but the muscular acts necessary to forward solution are arrested by its local action.[◊]

If these are the correct views, it is our duty to supply our patient with concentrated or partially digested nutriment, and we have abundant clinical evidence that when this is done the emaciation is less marked and the convalescence more rapid.

Liebig's great division of foods was into hydrocarbons, or "fuel foods," and albuminoids, or "tissue foods," the human frame being likened to an engine in which comparatively small quantities of "tissue foods" are needed to keep in repair the slowly wasting structure, while large quantities of "fuel foods" are required to enable it to do its work. This classification is still adhered to in the main,[*] since work only slightly increases the excretion of urea, and largely increases that of carbonic acid; and it is upon this point that an intelligent feeding of fevers depends. According to King Chambers, the "chief aim is to supply that which you clearly see is passing away—nitrogenous tissue."[†] In other words, to supply to the body materials for histogenesis. To this Fothergill[‡] demurs. According to this observer, the danger lies in the body becoming surcharged with nitrogenized waste, and the typhoid condition being set up. To give large supplies of nitrogenized food would tend to increase this nitrogenized waste, since the products of retrograde metamorphosis do not come only from tissue waste, but from the *luxus consumptionis* of albuminoid food.

During the fever, then, he would have us feed our patient on carbohydrates, reserving the albuminoids till convalescence is established, because, in pyrexia, histogenesis *follows*, but does not go hand in hand with histolysis. "We should supply him with grape sugar, which is the normal body fuel."[#] If we give him beef-tea, it should contain baked flour, while the value of milk, independent of the fact that it disagrees with so many, rests upon its comparatively small proportion of lactose. Malt extracts, with effervescing waters, gruel, and oatmeal waters, lactose, and maltose—these are the materials with which we are to nourish our patient without adding to the dangers which beset him.

Which of these views is correct? It is evident that they are diametrically opposed to one another. The one says, As nitrogenous matters are being rapidly drained away, it is our duty to supply them. The other answers, No! for, as the blood is already surcharged with the products of nitrogenous decomposition, by supplying nitrogenous matter we shall only increase the danger.

Now, these "decomposition products" supposed to be the results of tissue waste are usually estimated by the quantity of urea excreted; but, in pyrexial states, this is fallacious, because we can not measure that portion derived *directly* from the nitrogenous elements of the food. A full diet in health increases the excretion of urea; it is still excreted when no food is taken.

Now, as the fully fed healthy man produces more heat, and excretes less urea, than the febrile man, it follows that the increase of body temperature is in part the result of diminished heat dissipation, in part the result of rapid metamorphosis of tissue, and in part due to causes undetermined; the increase of the excretion of urea is, in the main, increased histolytic changes. Hence an excess of urea excreted is not necessarily proof of an excess of nitrogenous decomposition products in the blood.

To sum up, we may conclude—

1. Many pathological processes arise from an improper dietary, and many others may be controlled by a proper dietary. There is a celebrated proposition by M. Broussais: "He who does not know how to manage the stomach will never know how to treat disease."[‖]

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[*] NOTE.—"A correspondent of the 'Levant Herald,' writing from Selenitza, gives an account of the manners and customs of the inhabitants of that Albanian village. . . . The sick have a hard time, the first principle in the case of illness being that the patient can not possibly eat." "Harpers' Weekly," December 18, 1886.

[†] "On the Management of Acute Disease."

[‡] "Outlines of the Phenomena of Fever."

[#] "Fever, a Study in Morbid and Normal Physiology," H. C. Wood, A. M., M. D., Philadelphia, 1880.

[‖] *Op. cit.*, p. 254.

[△] Very recent researches by the same author have led him to conclude that antipyrine lowers the temperature by lessening heat production, and this by stimulation of the inhibitory heat-center of Setschenow. ("Therap. Gaz.," Dec., 1886.)

[◊] Bernard, *op. cit.*

[*] Bennett, Chambers, Fothergill, *et al.*

[†] *Op. cit.*, p. 233.

[‡] "Food in Acute Diseases."

[#] *Op. cit.*

[‖] "The Celebrated Propositions of M. Broussais." D. L. M. Peixotto, M. D., 1830.

2. Malassimilation is a cause of disease. Peptones in the general circulation being poisons, when from any cause metabolism is interrupted, the system is prone to take on pathological conditions.

3. In pyrexia: *A*. The digestive juices, being less in quantity and impaired in quality, should be re-enforced by the artificial digestive ferments.

B. The stomach is feeble in a muscular sense, and incapable of dealing with large quantities. Hence concentrated or predigested foods should be furnished it.

C. The process is one of tissue destruction (histolytic). Hence we must furnish the materials for repair (histolysis). How and when to furnish these is still a disputed question.

D. Feeding is not the cause of pyrexia, nor starvation its cure. Though the former augments it and the latter decreases it, we gain most by keeping up nutrition.

E. The excess of urea excreted is not proof of nitrogenous waste in the blood.

A CASE OF GUMMATOUS DISEASE OF THE LARYNX,

WITH SPONTANEOUS REOPENING OF THE LARYNX AFTER THYREOID LARYNGOTOMY.*

BY EDGAR HOLDEN, M. D., PH. D.,
NEWARK, N. J.

THE circumstances attending the diagnosis in the following case, its history, and termination, have seemed to me to make it worthy of attention and record:

Mr. L. D., a small, dark-complexioned man of thirty-five, with an appearance of poverty belied by his possessions, came under my observation on May 20, 1885.

Dyspnœa, aphonia, dysphagia, and nausea, with debility, were the prominent symptoms. The mirror showed almost complete occlusion of the larynx, preventing a view of the true cords. There were cicatrices on the epiglottis and right laryngeal wall, but no active ulceration. Several spots, which at first appeared to be ulcers, proved, after cleansing, to be dull-yellowish prominences of rugæ, which formed the infiltrated right wall of the larynx. The left side presented a rounded mass of the same dull yellowish-pink appearance, looking like a coalescence of similar rugæ. These are shown in the drawing herewith submitted. He denied syphilis, admitted gonorrhœa in 1881, and stated that Dr. Elsberg had treated him for ulceration of the epiglottis, and that he pronounced the ulcer specific, and so treated.

In 1883 he was treated by Dr. Rice, a Fellow of this society, for extensive but superficial ulceration, and at that time presented all the appearances and symptoms, as Dr. Rice has since informed me, of tubercular disease, with apparent consolidation at the apex of one lung.

Under local and constitutional treatment the ulcers healed, and the dyspnœa, aphonia, and other subjective symptoms almost disappeared, the improvement being evident in the long intervals between his visits.

When last seen by Dr. Rice, several weeks before my examination, he was much worse, and I take the liberty of quoting from a report kindly given me by him: "Right vocal band almost immovable in median line; only slight movement of the left, which (if I remember) was about midway between abduction and adduction. During phonation the ventricular folds came together, and the voice seemed to be produced by their approximation. I remarked that the bands were rough with serrated edges."

Upon my examination, May, 1885, this had changed to the condition shown in the drawing, and above described. The appearance of the man, and the fact that there were evidences of some disease at the apex of the right lung, naturally suggested tubercular disease; but the facts that the ulcers were healed, that neither the epiglottis nor the capitula Santorini were tumefied or otherwise suggestive of tubercle, and that the area of consolidation in the lung was not surrounded by progressive disease, led me, after repeated examination, to conclude that the disease was either lupus, syphiloma, or carcinomatous infiltration. Believing it to be syphilis, I put him upon the use of iodide of potassium, rapidly increased to seven grammes daily, with appropriate local treatment.

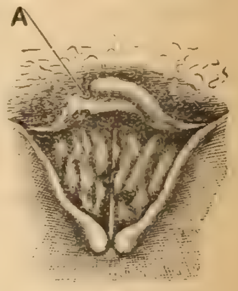

FIG. 1.

Suddenly, however, after ten days of marked improvement, he became intolerant of the remedy, and so rapidly did he retrograde that I doubted my diagnosis, and, influenced by his extreme dyspnœa, sleeplessness, and pain, as well as also by the belief of counsel, that the disease was malignant, I had him removed to the new St. Barnabas Hospital as a private patient, and, under chloroform, performed thyreoid laryngotomy on June 4, 1885.

There was no ossification of cartilage, and division was readily effected by strong, curved scissors, without previous tracheotomy. Hæmorrhage into the trachea was readily controlled, and was only reasonably profuse. The only feature of the operation that is worthy of record was that respiration stopped whenever traction was made on the alæ of the thyreoid, and only recommenced upon application of a strong galvanic current and hypodermic injection of brandy. This occurred three times during the operation.

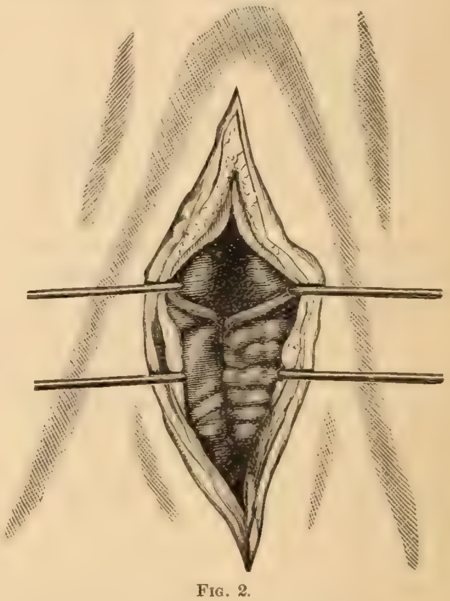

FIG. 2.

There was no ulceration visible: the open larynx, as shown in Fig. 2, exhibited the true cords intact, but hyperæmic and apparently hypertrophied. The rugæ of the right wall, above alluded to, were of a yellowish-pink color, suggestive of fatty degeneration, not detachable nor movable on the cartilage, and but slightly vascular. The tumor of the left wall was of the same appearance. This was removed by a wire écraseur, with but slight bleeding.

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* Read before the American Laryngological Association at its eighth annual congress.

The posterior wall of the larynx and the ventricular bands being involved in the same change and of the same yellowish-pink color, the tissues were cauterized with acid nitrate of mercury and washed with a strong alkaline solution. In view of the swelling, sloughing, and inflammation likely to ensue, tracheotomy was performed above the thyreoid isthmus, a tube inserted, and the larynx closed with one deep suture through the cartilage (as only the cricoid was left to support the larynx), and the external wound closed with numerous silk sutures.

The progress toward recovery was remarkable; the sloughs separated early, the tube was removed on the tenth day, and breathing was perfectly free and phonation very fair; indeed, unusually so at this early date after operation.

The larynx soon became firm, the external wound healed, and, although the tracheal wound remained open, he was so far recovered as to insist on being allowed to go home.

Contrary to my wishes, he was taken by his friends to his house, situated in a most unsavory locality next to a market, where in the heat of an early summer his health immediately deteriorated, and on the fortieth day after operation the whole wound was torn open during a paroxysm of cough induced by lodgment of food in the glottis.

It is unnecessary to detail the efforts made to keep the parts in apposition. They were unsuccessful. His wife and friends would not allow of his removal to the hospital or to a more healthful quarter, and, with but forlorn hope, I put in five silver sutures, with narrow metallic bars on each side of the larynx, August 27th, eighty-four days after the operation.

Under the wretched surroundings, in a foul atmosphere, and with insufficient nursing, a laryngo-tracheal catarrh developed, and the sutures tore or sloughed out.

Examination of the lungs at this time and subsequently, as well by myself as by a friend especially expert in auscultation, showed no disease; the area of consolidation had disappeared, and the doubt as to tubercular disease, already untenable, was satisfactorily removed.

Strapping of the larynx and efforts to promote granulation were persisted in, and early in September, after removal to a quarter a trifle less unwholesome, there was marked improvement.

Examination by laryngoscope and by external inspection showed no return of the original disease, and breathing and phonation were satisfactory when the external wound was closed by compress; but the hyperæmia of the larynx and a commencing necrosis of the divided cartilages, with debility, cough, irritable stomach, the evidences of want of care and proper sustenance, and the impure air of a locality in front of which ran a foul-smelling canal, reeking with the filth of a neighboring market and brewery, augured ill for the patient.

Although now desirous of removal, his friends would not permit it. Several members of the family were ill with intermittent fever, and he himself contracted it.

The catarrhal laryngo-tracheitis increased, and on November 18, 1885, six months and fourteen days after the operation, and after five months with an open larynx, he died of exhaustion.

No autopsy was permitted, and, indeed, aside from possessing the larynx as a morbid specimen and determining extension to neighboring tissues, this was not a serious misfortune, as both intra- and extra-laryngeal inspection were made easy by a muscular atrophy of a remarkable extent, and an absorption of cellular tissue so complete as to expose the outlines of the hyoid and anterior thyreoid and even the scaleni muscles.

There existed some degree of perichondritis, and toward the end, as stated, necrosis of the cut ends of the cartilage.

In reviewing the case I am inclined to believe the morbid growth following the recurrent superficial ulcerations to have been of recent and somewhat rapid development, and secondary to a similar manifestation in the lung.

The latter, if gummatous, might, as is usually the case, have been converted into tough, contracting fibrous tissue, or have disappeared by "simple atrophy, with scanty, fatty metamorphosis."

The microscopical appearance of the part ablated showed the cells and connective tissue usual in syphiloma of mucous membranes, the former resembling uni-nucleate, colorless blood-corpuscles, from 0·02 to 0·04 mm. in diameter, mostly round, with comparatively large nuclei; the abundance of connective tissue, as stated by Wagner, suggestive of formation of callous masses due to fatty atrophy and resorption of cellular elements of the older syphilomata.

The question of diagnosis between lupus, tubercle, and syphilis of the larynx was well presented by Dr. Asch and Dr. Knight, and discussed before this society in 1881, but gummata were not alluded to. A full record may be found in the transactions for that year.

I have made no exhaustive inquiry into their bibliography, but my own experience and the works I have consulted lead me to believe that gummatous infiltration of the laryngeal walls is of rare occurrence. Mackenzie states that gummata are usually found on the posterior wall ("Pharynx, Larynx, and Trachea," p. 261), and his plates represent rounded conglomerate masses of small size, although he quotes one from Norton as of large enough size in the ary-epiglottic fold to destroy life by suffocation.

As the matter of differential diagnosis is important, I would summarize my reasons for believing this case syphilomatous as follows, viz.:

There was a history of recurring ulceration that yielded to treatment (tertiary syphilis of the larynx having been styled "relapsing ulcerative laryngitis").

The cicatrix of the epiglottis was the result of ulceration, pronounced and treated as syphilis by Dr. Elsberg.

There was suspicious thickening of the sternal ends of the clavicles and of the periosteum of the tibia, with chronic induration of the post-cervical glands.

There was a condition of the apex of one lung simulating consolidation, which disappeared, as far as auscultation and percussion could determine, by atrophy or absorption; and, further, as there was no enlargement of neighboring glands, and the growth was rapid, yet did not recur after operation, and there were no manifestations on uvula or tonsils, malignancy, either of lupus or carcinoma, may reasonably be excluded. In thus speaking I am well aware of the histological similarity between the former and the gummata, and of the difference of opinion as to lupus of the larynx as an isolated affection.

The microscopical appearances were not conclusive, and, as may be inferred, I did not examine the morbid tissue for bacilli, as suggested by Haussmann, of Kiel, in a recent number of Virchow's "Archiv," where disease of the buccal mucous membrane was in question.

In concluding, I would remark that, had I anticipated removal of the patient from the hospital to an unhealthy locality, I should have performed tracheotomy only, and trusted to the destruction of the morbid growths *per vias naturales*, without thyreoid section.

A CASE OF HYSTERICAL SNEEZING

APPARENTLY CURED BY INTRA-NASAL APPLICATIONS OF THE CONTINUOUS BATTERY CURRENT.*

By SOLOMON SOLIS-COHEN, M. D.,
PHILADELPHIA.

Miss ——, aged twenty-eight, applied in the latter part of August, 1885, to my friend, Dr. Howard F. Hansell, of Philadelphia, with a ready-made diagnosis of hay fever, and with a ready-made therapeutic course which she desired him to carry out—namely, electric cauterization of the nasal mucous membrane. Dr. Hansell, without investigation of the case, referred the patient to me.

A few questions sufficed to dispose of the fancied hay fever. The attacks of persistent and uncontrollable sneezing, accompanied with lacrymation and dyspnœa, of which the patient complained, occurred at any and all periods of the year, depending upon nothing external to herself of which I could elicit an indication. Her knowledge of hay fever was derived partly from advertisements of quack remedies, partly from the daily papers. A glowing account in one of the latter, from the inspired pen of an imaginative reporter, of the supposititious cure of a prominent hay-fever sufferer by means of the electric cautery, had prompted her visit to Dr. Hansell, and her request "to be burned."

Inquiry into the previous medical history of this patient threw light upon the nature of her present trouble. She had, for ten years or more, been under almost unintermitted medical care. She had been in two hospitals; for "irritable spine" in the one, for "nervous tumor of the breast" in the other, to quote her own account. She had been subjected to cauterizations along the spinal column, to a long course of electrical treatment, and to excision of a nodule from a mammary gland. The symptoms narrated as having necessitated the various therapeutic measures were of the most varied character, but largely consisting of pains. Pains in the breast that had been operated upon, and in the shoulder of the same (right) side, were still complained of, and the nasal symptoms were said to become more intense when these pains were aggravated. Upon inquiry of one of the hospital physicians under whose care Miss —— had been treated electrically, it was learned that the patient had always been regarded as a neuro-mimetic subject, though the exact nature of her symptoms was not remembered. Organic disease had been positively excluded.

The duration of the present symptoms, according to the statements of the patient, was about twelve months, the intensity having increased gradually. The paroxysms occurred at irregular intervals and lasted for ten or fifteen minutes as a rule, sometimes for more than half an hour; sometimes recurring frequently during a single day, sometimes occurring but once daily; sometimes being manifested but on one or two days in a week, sometimes on a number of days successively. The first manifestation would be a sensation of tickling in the nose, provoking a violent fit of sneezing; the eyes would burn, then water; a limpid fluid would be discharged from the nose, which organ would then gradually become occluded, so that breathing would have to be carried on through the mouth. Sometimes an asthmatoid paroxysm followed. Sometimes exhaustion brought the paroxysm to a close, sometimes it suddenly ceased without apparent cause. Sometimes somnolence followed. Mental or emotional excitement would sometimes provoke a paroxysm. Sometimes the attack appeared to be brought on by inhalation of dust, sometimes by cooking, sometimes by going into the open air; and often it came without apparent excitant. The statements of the patient were corroborated by her mother. I was very anxious to observe an attack, and I tried on several occasions to provoke one in my office, but without success. The patient was requested to come to the office in the midst of a paroxysm, but—although she twice started from home for the purpose, and, according to her own statement, sneezed all the way—the attack "very provokingly" ceased upon my doorstep. In fact, so potent did my presence or its apprehension seem to be that, on several occasions, the nose of my patient, which had remained occluded during half-an-hour's stay in the waiting-room, "opened" immediately upon her entrance into the consulting-room. For the fact of the paroxysms, then, as well as for their reported relief, the only evidence I have to offer is that of the patient and her mother. The larynx and pharynx were normal. Rhinoscopic examination, anteriorly and posteriorly, revealed normally contracted nasal chambers. The structures were all small, as was to be expected in the small-bodied, small-faced subject. Neither hypertrophy nor atrophy of the turbinated bodies, neither pallor nor injection of the mucous membrane, could be discovered. The septum was unusually well formed, but a slight projection high up on the left side approached very nearly to the middle turbinated body, and it could easily be conceived that, when turgescent, the structures would be in actual contact. Just above this projection (the tuberculum nasi?) I succeeded in locating upon the septum a sensitive spot; that is, pressure with the probe upon the spot in question would cause the patient exquisite pain, and make her feel as if she were going to have an attack. I never succeeded, however, in actually producing a paroxysm.

Although the patient was told that she had not hay fever, and that cauterization was not indicated, she recurred to the subject frequently, and insisted that she "would never be well till she was burned."

Desiring to study the case, I at first instituted a palliative treatment with cocaine, directing instillation into both nasal passages of a few drops of a four-per cent. solution on the occurrence of the initial tickling. For two or three days this measure was successful. After that it failed, as did stronger solutions, both by instillation and by penciling, and the insertion of tablets of one eighth of a grain of cocaine hydrochlorate. Pencilings with a so-called oleate of cocaine (ten per cent.), and with a mixture of cocaine and cosmoline, retained a moderate degree of influence in allaying irritation and preserving the perviousness of the passages. Internal medication was then tried; bromides, valerianates, asafœtida, zinc, belladonna, and arsenic being given in various forms and combinations, separately and together. Belladonna, or rather atropine, seemed to have the greatest influence; but each and all apparently did good for a time and then failed. Bougies of belladonna and cocoa-butter of various strengths, from one-eighth grain to one-half grain of the extract, were inserted into the nostrils, both in conjunction with internal treatment and independently of it. These seemed to do a great deal of good, especially when inserted high enough to reach the sensitive spot in the left nose, and allowed to remain there until dissolved. At first used three times a day, then once daily, then on alternate days, then with gradually increasing intervals, these applications kept the paroxysms under control for two months, and the patient remained free from attacks for six weeks after cessation of treatment. She then returned (January, 1886), complaining of recurrence, and, although the formerly effective treatment was at once reinstituted, it utterly failed. A spray of ammonium bromide in glycerin and water, and local applications of a similar solution, were without effect. Daily applications of the continuous electric current were then instituted. The positive electrode was inserted into the nostril and placed upon the sensitive spot upon the septum. The negative electrode was placed upon any indifferent point upon the cheek. At first five Daniell's cells were used, the number being gradually increased to twenty. The length of the sittings—at first one minute—was gradually increased to five minutes. During the longer sittings the current was interrupted after one minute by withdrawal of the electrode, and the application was renewed after an interval of half a minute. At first the patient complained of intense pain, and lacrymation was observed. As improvement was reported from day to day, the pain complained of diminished—that is, a stronger current was required to produce it—and lacrymation ceased. Finally, after two weeks' daily sittings, a current from twenty cells failed to produce special pain, and the patient professed herself well. However, she was made to return—at first twice a week, then once a week—for a month longer, during which time no recurrence had taken place. I have learned that no paroxysm had taken place four months after her discharge from treatment.

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* Read before the American Laryngological Association at its eighth annual congress.

To what the recovery is due, and whether or not the paroxysms will return when the patient's mind becomes disabused of a peculiar error—for which I am not responsible—I do not know. A not inconsiderable experience with hysteria in its protean forms, especially in hospital practice, has made me distrust even the most plausible connection between recovery and the particular remedial agent employed at the time. I have sometimes seen as good results from the prescription of inert substances, when duly impressive cautions have been given not to exceed the dose, as from valerian, asafœtida, or other approved and vaunted remedies. The effect of mental impression upon these self-deluded patients is well known. Dr. Harlan has reported a case which I called to his observation in which apparent unilateral iridoplegia followed mycosis tonsillaris, in which great limitation of the field of vision and other ocular disturbances were noted, and in which I succeeded in relieving the apparent blindness and restoring mobility to the iris by the application of a wooden imitation of a Charcot magnet. When Miss —— was told that electricity would be applied, she took it for granted that the cautery was meant—the pain was to her the pain of heat—and her mother tells me that she has triumphantly asserted that she "knew she couldn't be cured without burning!" Rhinoscopic inspection after the applications showed that no eschar was produced by the current.

The Sewerage of Newton, Mass.—On Tuesday last a public meeting was held, at which the subject of sewerage was discussed and the metropolitan system explained in an essay by Mr. J. W. Carter.

A NEW METHOD OF TESTING THE "KNEE-KICK."

By WARREN P. LOMBARD, M. D.

It is the desire of the writer to call the attention of physicians, and more especially of those interested in nervous diseases, to a very simple and delicate method of testing the so-called tendon reflex of the knee, or "knee-kick." Aside from its precision, this method will recommend itself to the practitioner because it can easily be employed on patients who are confined to the bed. As soon as a convenient method of striking the ligamentum patellæ a blow of known force has been devised, the method will gain a new importance, because it lends itself readily to simple means of recording the extent of the movement, and will thus enable the physician to keep an accurate record of the condition of his patient, and of the changes which the "knee-kick" may undergo in the course of disease.

Last winter the writer made a series of experiments, in the physiological laboratory of the College of Physicians and Surgeons, upon the time required for the development of a contraction of the quadriceps muscle in response to a blow on the ligamentum patellæ, as compared with the intervals elapsing when the muscle was stimulated directly by a faradaic current, and reflexly by an irritant applied to the skin near the knee ("American Journal of the Medical Sciences," January, 1887, p. 88). These experiments demanded a more delicate means of testing the "knee-kick" than any in general use. After a time an appliance was found which satisfied all the requirements. It is unnecessary to describe the method followed in this laboratory research, for it is not feasible for the general practitioner; the following imitation of this method, however, can be employed in all places and at all times.

Let the patient lie on his side, the leg to be examined being uppermost. Place a cushion or roll of cloth between the thighs, so as to separate the knees, and, as far as possible, to fix the thigh of the limb to be studied. Support the foot of the leg to be examined by a sling, formed of a loop of bandage, or of a towel, suspended from a cord. Grasp the cord as far from the foot as may be, letting the hand be directly over the ankle, that the leg may swing freely and the degree of flexion of the knee be determined entirely by the tension of the muscles. Strike the ligamentum patellæ with an instrument which has a rounded edge and which is considerably heavier than the ordinary percussion hammer.

Improvements upon this method will readily suggest themselves; such as to make the thigh immovable by letting it rest in a splint which is molded to its inner and posterior surface, and which is fastened to a firm support; to fix the foot in a suitable swing; and to let the cord from which it is suspended come from a pulley at the ceiling.

By means similar to those described, a marked "knee-kick" may often be got from a patient who by the ordinary methods of examination would exhibit little or none. The delicacy of the method depends on the fact that the muscle is relieved of the weight of the leg, and its slightest contraction can, therefore, cause a visible movement. By this means some rather curious results have been obtained. A marked "knee-kick" was observed in the case of one subject during sound sleep. The re-enforcements described by Dr. Weir Mitchell ("Medical News," February 13 and 20, 1886) were admirably illustrated. In short, the method seems to meet all the requirements of the investigator.

The extent of the motion of the foot, and consequently of the contraction of the quadriceps muscle, may be recorded by the following simple arrangement: A string may be fastened by one end to the heel, and by the other to a strip of elastic, which, in turn, is attached to a firm upright support. The support can then be placed in such a position that the string shall be tense, shall be horizontal, and shall form a right angle with the long axis of the leg. The writing mechanism may consist of a piece of wire bent to form a T, the horizontal arms of which can be fastened to the string, while the free end of the stem can rest on a paper, coated with lamp-black, and secured to a board, which is placed directly beneath.

A contraction of the quadriceps muscle will extend the leg, stretch the elastic, and, by drawing the wire across the blackened surface, leave a record of the extent of the movement. Such a tracing can readily be fixed by passing the paper through the ordinary brown shellac varnish. Crude as such a method is, it would enable valuable records to be obtained with but little trouble.

Correspondence.

LETTER FROM LONDON.

The Proposed new Medical Degree for London Students.—Meeting at the College of Physicians.—Sir James Paget and the Pathological Society.—A New Specialists' Journal.

London, *January 16, 1887.*

The new year finds the scheme for providing an attainable degree for London medical students much more nearly within the range of practical politics than it was twelve months ago. Since then delegates from the College of Physicians and the College of Surgeons have held innumerable sittings, and presented a report the most important part of which has now been accepted by both the colleges. The latest transaction in regard to it took place at a meeting of the College of Physicians in December, when the report of the delegates was under discussion. It is quite possible that the report might have been rejected had it not been for the eloquent speech of Sir Henry Pitman, who smoothed away all objections with singular ability. The great argument of the objectors has always been that colleges can not give degrees, that being the function of a university; and therefore, they say, let a university be formed in the management of which the two colleges may have a share. But Sir Henry Pitman first told us that the University of Edinburgh existed as a college for a hundred years before becoming a university, and then gave, perhaps, even a better instance in the recent foundation in London of a Royal College of Music, which has the power to grant degrees in music; it is, therefore, clear that the university-theory objection can no longer be sustained. Another objection that was frequently raised was that the identity and existence of the College of Physicians would be merged in this new body; but those who urged this forgot that the combination of the two colleges had already taken place as far as is necessary, without in any way producing detriment to the individuality of either of them. The meeting ended with a practically unanimous decision to join with the College of Surgeons in presenting a petition to the Privy Council asking for power to confer a degree. What the exact terms are upon which this degree should be given have yet to be settled; but the only point upon which there is likely to be any difference of opinion is as to whether it should be a *sine qua non* that the student shall have studied at one of the metropolitan schools of medicine. It appears to me that it should be, and for this simple reason—viz., that one of the chief reasons, if not the very foremost reason, for demanding a degree in London is the immense opportunity for clinical study which the metropolis affords, and to give this new degree to men who have not availed themselves of those opportunities would make it appear that the efficient training of the student was not an all-important point. It seems possible that the College of Physicians may differ with the College of Surgeons on this point, as it is rumored that the latter does not wish to insist upon any part of the study being of necessity carried out in London; but I hope it will be brought to see the error of its way, as I know that by many at the College of Physicians the matter will be regarded and treated as a vital one.

Sir James Paget has surprised nearly every one by becoming the president of the Pathological Society, and showing that he is never too senior to accept any office which may lead to the attainment of knowledge. He has always, though a great surgeon, had a leaning to pathology, and his lectures on surgical pathology, delivered many years ago, may still be read with the greatest profit. For several years he has been the leading spirit in the management of the College of Surgeons museum, and has edited the catalogue of the preparations contained therein, a work only recently completed. He is anxious to keep himself quite abreast of what is going on in pathology at the present moment, and he has certainly chosen the best means of attaining his object. The society is especially fortunate in having one to preside over its deliberations who never speaks on any subject without throwing some new light on the point in dispute, and who is without doubt by far the best speaker in the medical profession.

The Pathological Society lost no time in getting to work after the Christmas vacation, and last Tuesday there was plenty of material for discussion. Dr. Wigglesworth communicated a case of Raynaud's disease in which peripheral neuritis was found, but it would appear to be at least doubtful whether that name was rightly given to it, and whether the case might not more justly be placed in the same category as those of perforating ulcer of the foot. It would hardly seem possible that the symptoms would be of so fleeting a character in the real disease if they were dependent upon peripheral neuritis. At the same meeting Mr. Eve showed a specimen of multiple cavernous angeiomata, and Dr. Carrington a specimen of supposed recovery from tubercular meningitis, a point on which those who followed him were by no means agreed.

A "Journal of Laryngology and Rhinology" is announced as having sprung into existence with the new year. It is edited by Dr. Morell Mackenzie and Dr. Norris Wolfenden, and published by Messrs. Churchill. I have not seen it yet, but there can be very little doubt that there is room for such a periodical. It is to come out monthly and consist of a record of current literature on the subjects, and not of original papers.

The Board of Health of Brockton, Mass.—The mayor has communicated to the Board of Aldermen his reasons for the removal from office of the present members of the board. The aldermen will take action on the mayor's communication at their meeting on Monday the 31st inst.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by
D. Appleton & Co.

Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, JANUARY 29, 1887.

LATE PUERPERAL HÆMORRHAGE.

Gräfe, of Halle, contributes an article on this subject to a recent number of the "Zeitschrift für Geburtshülfe und Gynäkologie," including under the title all uterine hæmorrhages that occur after the time when the lochia ordinarily lose their sanguineous appearance. He believes such hæmorrhages to be far commoner than is generally supposed, the physician's attention not being called to them by the patient or the nurse; so long as the loss of blood is not sufficient to give rise to apprehension, he says, it is allowed to go on untreated, and, even when the attendant discovers that there is hæmorrhage, he rarely seeks to discover its cause, but simply gives a few doses of ergot in a perfunctory way. In itself an occasional slight oozing of blood during the lying-in period is not particularly significant, but when it is a symptom of some pathological condition it acquires great importance. As a result of inadequate tonic contraction of the uterus, its vessels do not receive sufficient compression, and thrombosis occurs imperfectly. Any sudden determination of blood to the organ, as from straining at stool, too early rising after labor, etc., then results in the dislodgment of the thrombi and consequent metrorrhagia. In short, hæmorrhage occurring late in the puerperium is a symptom of subinvolution, provided it is not due to placental residua. The author considers the following deductions warranted: 1. Most puerperal metrorrhagias are of grave significance, and point to imperfect involution. 2. They may be so profuse as actually to threaten life. In this case they are due to "placental polypi," which become partially or completely detached during the first half of the period of convalescence. 3. Placental residua may lead to rapid general enlargement of the uterine mucous membrane, as a result of which hæmorrhage may occur at the close of the lying-in period. 4. Moderate hæmorrhage during the first week may be dangerous if the blood can not find a ready exit from the uterus. If imprisoned within its cavity, it causes gradual dilatation of the organ, so that the mouths of the vessels expand, their thrombi are detached, and what was at first an insignificant metrorrhagia may become extremely dangerous.

The means of prevention consist primarily in the proper management of the third stage of labor. The placenta must be carefully inspected after its expulsion, and, if any part of it is wanting, the missing portion must be detached from the interior of the uterus under strict antiseptic precautions. If atony of the organ is observed, it should be stimulated to contract by the employment of ergot, friction, and hot or cold injections. The physician should make it his business to see that involution is proceeding normally. If metrorrhagia appears, the genital tract should be explored for its cause; care should be taken that the bladder and rectum are regularly and thoroughly emptied; and ergot should be given in full doses for two or three days, and then in smaller doses for a fortnight. The author has seen no benefit follow the use of *Hydrastis canadensis* in this class of cases. Hot vaginal injections are useful. If the hæmorrhage persists in spite of this treatment, it may be necessary to resort to the curette, but the instrument must be handled with more than ordinary care, as there is danger of perforating the uterine wall. When the uterus is found to be much larger than it should be, and there is profuse hæmorrhage, we should not hesitate to introduce the hand boldly into its cavity, to remove coagula, and to endeavor to promote contraction by counter-pressure over the fundus, as in ordinary cases of post-partum flooding.

MINOR PARAGRAPHS.

THE ANNUAL REPORT OF THE SURGEON-GENERAL OF THE MARINE-HOSPITAL SERVICE.

Surgeon-General Hamilton's report for the year 1886 forms, with the statistical and other appended matter, a volume of over three hundred pages. About one half the volume is taken up with clinical histories of interesting and instructive cases of injury and disease, contributed by the officers of the corps. As heretofore, we find the publication not only interesting in itself, but exceedingly well calculated to maintain the efficiency of the service. As concerns Dr. Hamilton's own part, it teems with crisp and pointed statements, a good example of which is afforded in the following paragraph relating to the hospital at Chicago:

> "This, the largest hospital in the service, is still in need of extensive appropriations. The breakwater constructed last year for the preservation of the shore frontage has been largely broken away by the waves, and needs renewal. Some of the piles washed ashore, and it was found that some of them were only eight feet long. I reported the matter to the department, and it was investigated. The superintendent of the work is dead, and the department is considering the question of bringing suit against the contractor. In the mean time the lake goes on encroaching on the front, and an additional appropriation is necessary. The condition of the grounds around this hospital has been so often reported that the facts have lost their freshness. I repeat them once more, in the hope that an appropriation may be obtained to put the grounds in proper order. The hospital was begun in 1867, located on a sand-bank on the lake side, about six miles north of the Chicago River. The sand has never been graded, sodded, or turfed, and the level of the hospital lot changes with the wind-storms. The fence in front is now old, and should be replaced with a new one; it was a temporary board structure in the beginning, which the architect thought would last until an iron fence, in keeping with the handsome design of the building, could be constructed. Twenty years have passed, and the boards, much discolored and worn, are still waiting for the improvements so long ago asked for. A new steam-boiler is needed."

THE BOARD OF HEALTH OF THE HEALTH DEPARTMENT.

The body which is officially designated by this cumbrous title is threatened with legislation involving its destruction. The bill now before the Legislature, a summary of the leading provisions of which we give elsewhere in this issue, will, if it becomes a law, substitute a single commissioner for the present board. The idea is that individual responsibility in the commissioner and in the Mayor will be likely to lead to a better performance of the duties appertaining to the sanitary department of the city government, and that the expense of the service will be diminished. Individual responsibility is regarded by many people as a political panacea, but this, we take it, is more or less of a delusion. At all events, it will be exceedingly satisfactory if this or any other device gives us as good a sanitary service as we had under the old Metropolitan Board of Health. It is understood that the bill has been prepared largely in accordance with the views of Mr. Gallatin, whose public-spirited and intelligent study of the methods employed by the present board are a sufficient guarantee that the bill is at least deserving of careful consideration. What the chances are of its becoming a law may perhaps best be inferred from the obvious fact that it will not suit the politicians. Not only is the present board thus practically arraigned before the community, but its dealings with members of the medical profession, in the matter of death certificates, is to be made the subject of inquiry by a special committee appointed on the part of the Medical Society of the County of New York, as will be found stated in another part of the Journal. It must be said to the credit of Dr. Nagle, who has charge of the Bureau of Vital Statistics, that this action was taken on his motion. Of course, the committee's report, whatever may be its purport, will carry with it nothing but moral effect, but it is to be hoped that we shall at least get at the facts.

CAPITAL PUNISHMENT BY ELECTRICITY.

The horrid features of capital punishment by hanging—a term tantamount in the majority of instances to strangling—have often received consideration from a medical point of view. It is now announced that a legislative commission appointed to inquire into the merits of various devices for putting murderers to death with less repulsiveness will shortly report to our State Legislature in favor of the adoption of electricity. It is thought that the result is likely to be the passage of a bill abolishing execution by the gallows. A medical member of the commission is said to have expressed the wish that this State would "take the initiative in this step toward a broad humanity," and to have professed his gratification that France, Germany, and New Jersey seem to have had their serious attention turned to the matter in consequence of the New York inquiry.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 25, 1887:

DISEASES.	Week ending Jan. 18.		Week ending Jan. 25.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever..............	16	5	7	5
Scarlet fever...............	44	7	49	11
Cerebro-spinal meningitis....	6	6	6	4
Measles....................	632	86	606	58
Diphtheria..................	130	38	123	50
Small-pox..................	6	2	24	0

Small-pox in New York.—For the past week or more new cases of small-pox have been reported from various quarters of the town almost every day, and the Board of Health has found it necessary to appoint a number of additional sanitary inspectors for temporary duty in connection with public vaccination and other measures for controlling the disease.

The Health of New York City.—During the five weeks ending January 25th there have been reported to the Sanitary Bureau of the Fourth Division of the Health Department 68 cases of typhoid fever and 30 deaths; 215 cases of scarlet fever and 39 deaths; 27 cases of cerebro-spinal meningitis and 25 deaths; 2,730 cases of measles and 322 deaths; 636 cases of diphtheria and 227 deaths; and 30 cases of small-pox and 2 deaths.

The Medical Society of the State of New York.—We learn that the following additional contributions to the programme have been offered since the list which we published last week was made up: "Embolism of the Radial Artery complicating Endocarditis" (in abstract), by Dr. F. E. Martindale, of Port Richmond; "A Modification of Chadwick's Gynæcological Table" (model and photographs), by Dr. Charles Stover, of Amsterdam; "Ametropic Conditions of the Eye as a Factor in Cephalalgia" and "The Treatment of Small Perforations of the Membrana Tympani with reference to the Formation of New Tissue," by Dr. B. H. Grove, of Buffalo; "New Nasal, Pharyngeal, and Laryngeal Instruments," by Dr. Samuel Sherwell, of Brooklyn; "Seven Cases of Solid Pelvic Tumors successfully removed by Laparotomy," by Dr. M. D. Mann, of Buffalo; "Observations on Diphtheria—its Complications and Treatment," by Dr. E. N. Liell, of New York; and "A Case of Floating Liver," by Dr. E. H. Parker, of Poughkeepsie. The meeting will be called to order at 10 A. M. on Tuesday.

The City Health Department and the Profession.—At the last meeting of the Medical Society of the County of New York the secretary read a communication prepared by Dr. John C. Peters, setting forth the evils arising in consequence of the law making it necessary that the president of the board of commissioners should not be a medical man. The result was, the writer said, that politics, in the worst sense of the term, influenced the department, arbitrary authority was used offensively in certain cases of infectious disease, and the board was derelict in abating nuisances. At the same meeting, on motion of Dr. Nagle, the appointment of a committee of five was authorized, to investigate the charges made in the president's inaugural address, to the effect that death certificates were sometimes returned to physicians for correction on the flimsiest pretexts.

Trichiniasis in Wisconsin.—The death is reported of a man and his wife, who lived at Stevens Point, from trichiniasis contracted by eating the flesh of a pig which was known to be diseased, but from which the man supposed that he had rejected all the infected portions.

A Bill to Substitute a Single Commissioner for the present Health Department of the City of New York has been introduced into the Legislature, the provisions of which are as follows: It abolishes the present Health Department, and substitutes a "Commissioner of Health," to hold office for six years, at a salary of $8,000 a year, on appointment by the Mayor. The latter official is empowered to remove the commissioner "for reasons to be stated in writing and published in the 'City Record,' which reasons shall not be questioned in any other place." Except as otherwise provided in the bill, the commissioner's powers, authority, and duties shall be the same as those of the present Health Department. He shall appoint a deputy, at a salary of $5,000, who may act as commissioner, for periods not exceeding three months, on written authorization by the commissioner, and his ordinary duties and powers shall be those appertaining at present to the secretary of the Board of Health. The bill abolishes the office of the present Board of Health's legal adviser, and authorizes the Corporation Counsel to assign an attorney, with the necessary clerks, to the commissioner's office, a portion of the appropriation for the Health Department to be transferred to the credit of the Law Department, to pay the salaries of these persons. The bill leaves the existing Sanitary Code in force.

Veterinary Practice in the State.—A bill has been introduced into the New York Legislature giving persons who have practiced veterinary medicine for three years preceding its passage, although without having obtained a diploma from a veterinary college, the right to register at the office of their County Clerk, and thereafter to continue to practice.

The Harvard Medical School.—In the recent annual report, the president of Harvard University spoke as follows of the medical department: "The medical school makes a slow gain in the number of students and its annual income, but is nevertheless doing excellent work. A plan for abridging the four years' course of study in certain cases is now under consideration."

The Boston Board of Health.—Dr. Durgin, who has been a member of the board since its organization seventeen years ago, and has rendered efficient service, has been nominated for another term by the Mayor, and confirmed by the Board of Aldermen.

The Springfield, Mass., City Hospital has had bequeathed to it, in the will of the late Mr. William Merrick, a sum stated to be between $75,000 and $100,000. Together with the $25,000 received from Mrs. Chester W. Chapin, this places the institution on a good footing, and it is understood that the trustees are looking about for a suitable locality for a new building, the present property being at too great a distance from the business portion of the city.

The Study of the Curability of Tuberculosis is meeting with substantial encouragement in France, where, according to the "Gazette hebdomadaire de médecine et de chirurgie," a fund amounting now to 54,055 fr. has been subscribed for the purpose. The contributions come not only from individuals, but also from municipalities—a fact that attests the existence of a gratifying public interest in the matter.

Secretory Crises in Tabes Dorsalis.—At a recent meeting of the Paris *Société de biologie* M. Féré said that he had lately observed an ataxic patient who had crises of profuse sweating or salivation, accompanied with fulgurant circumorbital pains and a unilateral increase of the lacrymal secretion, a phenomenon which, the speaker remarked, had already been noticed by Duchenne and Pierret.

An Homology between the Shoulder Blade and the Innominate Bone was brought to the attention of the same meeting, an account of the proceedings of which is to be found in a recent number of the "Gazette hebdomadaire de médecine et de chirurgie," by M. Assaky, who stated that, during the formative stage, a small bone was to be found included in the cartilaginous substance of the glenoid cavity, which he proposed to call the glenoid bone (*os glénoïdien*), by analogy with the cotyloid bone (*os cotyloïdien*) found by Serres in the cotyloid cavity, in children from nine to ten years old, between the three bones constituting the complete os innominatum.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 16, 1887, to January 22, 1887:*

Forwood, W. H., Major and Surgeon. Ordered for duty at Fort Meade, Dakota Territory. S. O. 5, Department of Dakota, January 14, 1887.

Brooke, John, Major and Surgeon. Ordered for duty as post surgeon at Fort Monroe, Virginia. S. O. 10, Division of the Atlantic, January 14, 1887.

Gardner, W. H., Major and Surgeon. Ordered for duty as post surgeon at Fort McHenry, Maryland. S. O. 10, Division of the Atlantic, January 14, 1887.

Pope, B. F., Major and Surgeon. Ordered for duty at Fort Clark, Texas. S. O. 15, A. G. O., January 19, 1887.

Society Meetings for the Coming Week:

Tuesday, *February 1st:* Medical Society of the State of New York (first day—Albany); New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Hudson, N. J., County Medical Society (Jersey City); Hampden, Mass., District Medical Society (Springfield); Androscoggin, Me., County Medical Association (Lewiston).

Wednesday, *February 2d:* Medical Society of the State of New York (second day); Harlem Medical Association of the City of New York; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association; Philadelphia County Medical Society (regular).

Thursday, *February 3d:* Medical Society of the State of New York (third day); New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; U. S. Naval Medical Society (Washington).

Friday, *February 4th:* Practitioners' Society of New York (private).

Saturday, *February 5th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of December 22, 1886.

(*Concluded from page 106.*)

The Use and Abuse of Passive Motion. — Dr. Sands's paper on this subject (see page 103) being under discussion, Dr. L. M. Yale said that so many interesting topics had been raised that it would be difficult to fully discuss them. The speaker considered the use of hot water in sprains of great value, gradually raising the temperature of the water as high as it could be borne, and afterward applying compression; this he had found would alleviate the pain in many cases. The treatment by massage he believed to be only applicable in cases where the injury did not involve the bony parts. The cases he considered most likely to suffer ankylosis from enforced rest were those arising from gonorrhœal rheumatism and similar pseudo-pyæmic affections, as in such patients ankylosis, more or less severe, occurred quite frequently. In the majority of cases of ankylosis he had found that, after the adhesions had been broken up and the acute symptoms subsided, good motion was generally secured in the joint. But in chronic cases of the kind alluded to he had often met with complete failure.

Dr. C. K. Briddon said that the paper had thrown a ray of light on what the editor of the "Lancet" had called "a dark corner in the domain of surgery." The editorial referred to applied to papers published in that journal fifteen years ago by Dr. Wharton P. Hood, and subsequently issued in book-form under the title "On Bone-Setting (so called) and its Relation to the Treatment of Joints crippled by Injury, Rheumatism, Inflammation," etc., a book from which he had culled much that was valuable and instructive. It was in return for services rendered to Mr. Hutton, the renowned bone-setter of Great Britain, that Dr. Hood had been allowed to witness the procedures by which he certainly achieved many successes. In one portion of his book he referred to a communication made to him by Mr. Ponsonby in which the latter gentleman, in facetious but not very flattering terms, referred to a bad sprain treated by parboiling, and subsequently by prolonged rest advised by two prominent surgeons, that was at last promptly cured by the manipulations of the " bone-setter."

Dr. Peter Hood had devised a treatment for sprained ankle that had given him more satisfaction than any other—strapping the whole foot and ankle with adhesive plaster and a firmly applied bandage, arranged so as to prevent any stretching of the lacerated tendons, and changed every day.

The speaker would like to indorse the opinion of Dr. Sands with reference to the treatment of firm fibrous ankylosis by forcible movements. He had succeeded in restoring function to some disabled limbs by such means, but had more often failed. In the early part of the present year a lady was placed under his charge with a knee badly damaged by rheumatic arthritis. It was flexed, the head of the tibia was displaced backward, and the leg was rotated; there was scarcely perceptible movement, and the patella was immovably fixed to the condyles. He had her under the full influence of ether and arranged on a stout table, with all the advantages to be obtained by using the leg as a lever. It required all the force he could bring to bear before he succeeded in flexing and extending the limb to his satisfaction, and the reports of the rending adhesions were truly alarming. On the following day there was no local elevation of temperature, but the parts were so sensitive that she would not permit him to touch the limb until she was placed under the influence of ether. For a month he made daily movements under anæsthesia, and then, finding the same conditions as those present the day after the operation, the same sensitiveness and inability on the part of the patient to move the joint, he gave up in despair, and, to prevent the return to a faulty position, he immobilized it extended.

In regard to passive movements in cases of fracture in the vicinity of joints, referring especially to those in the neighborhood of or involving the elbow, and including the epiphyseal separations of children, he would say that he would not treat such unless he was allowed to make early passive movements. In the early part of his career he had seen so many stiff joints where the parts were kept uninterruptedly at rest, that he had since insisted on early gentle movement, which could be done without materially disturbing the fracture.

Dr. George A. Peters said that he was in the habit of keeping the patient in bed when suffering from a severe sprain, and treating the injured part with hot water and compression. Eighteen months ago a case came under his observation involving the knee joint. Having heard so much talk of massage, he put the patient under the care of a masseur, under his own observation, and the result was very satisfactory. He had since tried it in other cases with good effect, and was inclined to look with favor on massage thoroughly applied.

In cases of false ankylosis of joints from fractures in their neighborhood it had long been his practice, as soon as the union was firm, to put the patient under anæsthesia and rupture them by strong manipulations. He had never had cause to regret such treatment, and believed it to be preferable to the slower method of passive motion, which the patient was prone to neglect on account of the pain which it occasioned.

With regard to passive motion in joints with fracture extending into them, it was his practice to remove the dressing, say, after the fourth or fifth day, and resort to very gentle motion. This he would continue every second day or so until he was satisfied with the results obtained. One advantage at least of such treatment was that the surgeon was enabled to see that the apposition of fragments was good, and deformity was less likely to result.

Fractures of the bones of the forearm near the wrist he had long treated with two short anterior and posterior splints, neither of them extending down upon the hand. These being secured in place, the arm was carried in a sling, the hand being allowed to hang loosely, and the patient was directed to use the hand and fingers as much as possible during the entire treatment. By this method he had secured results which were entirely satisfactory.

Dr. C. T. Poore said that he had seen some eight or ten fractures of the elbow joint in which passive motion was made early; but in one case no motion was made until the parts were healed and the dressings removed finally; in this case the result was excellent also. In regard to ankylosis, either bony or fibrous, he had seen great disaster follow attempts at motion; from his own experience, he believed much good could not be secured at the hip joint from manipulation, and that when it occurred at the knee joint much improvement could not be obtained, especially after suppurative disease.

Dr. Robert Abbe said that he must express strong objections to any motion that excited pain. He considered voluntary motion on the part of the patient much better; in the elbow and shoulder joints the patient would generally do this, and in six months could almost always get rid of plastic adhesions resulting from fractures. As to faulty ankylosis of the knee joint following gonorrhœal inflammation, he had observed an article, published by Mr. Barwell in the " Lancet," in which resection of the bone was advised in preference to violent rupture in order to secure an improved position. The speaker quoted a case in which he had assisted Dr. Weir, occurring in a woman whose knee had been flexed at more than a right angle; the adhesions had been broken up, and after a reasonable time the patient had been taught to make passive motion. She had drawn the foot backward and forward by an elaborate apparatus devised for this purpose, but at the end of a year she had not gained much, and had started up meanwhile some inflammatory action which had caused great anxiety.

Dr. W. T. Bull considered Dr. Sands's remarks very opportune. Some thought it necessary after fractures to make passive motion at a certain time, and frequently inflicted pain in so doing, which he considered unnecessary. He thought the idea of passive motion at the end of three weeks in fracture of the patella was wrong, as, if there was a fracture needing freedom from motion, it was this fracture. In his practice for the last ten years he had not allowed motion until the eighth week. In one or two cases where motion had not been regained at the end of the eighteenth week passive motion had been made under anæsthesia and the joint liberated. He had met with an instance of the advantage of the " faith cure " in a patient who would not submit to the manipulations he proposed. This patient, who had had a fractured patella, believed in the faith cure, and visited a " shrine " in Hoboken. She was told to kneel down; she complied, and heard something snap, and she afterward had a good knee. In fracture of the elbow joint, the speaker had felt but little hesitation about abandoning the old tradition that passive motion was necessary. But in fractures opening into the joint he had made passive motion two or three times a week, and at the end of the fourth week the patient had been trusted with manipulation of the joint; better results had been secured by this means. He had also directed the patients to apply a hot poultice to the joint every night for two or three weeks after commencing passive motion; under this influence and their own manipulations stiffness had soon disappeared. He was using less and less passive motion in his practice; he thought there should be some definite understanding on this point; he doubted if passive motion diminished stiffness permanently.

In speaking of fracture of the wrist joint, he considered that a different class of cases; and in the average fracture, if kept at rest, the cure would not be attended with any stiffness; but he had always been in the habit of allowing the patient to move the wrist and fingers at the end of a week or ten days, and would advise this practice in order to prevent adhesions of the tendons. He said that Dr. Sands had referred to periarthritis in speaking of articular rheumatism of the shoulder joint; in some few cases of laboring men he had forcibly ruptured the adhesions under ether and secured good results. In relation to passive motion in gonorrhœal ankylosis of the joints the results had not been satisfactory. In the treatment of sprains Dr. Sands had followed out the same method which the speaker considered the best; as to the use of hot water, he had not gained much from its application, and would never use hot or cold water in the swelling of a fracture.

The Chairman (Dr. L. A. Stimson) said that his views were much the same as those of the other speakers. He would like, however, specifically to add his testimony against early resort to passive motion. It was his opinion that the stiffness of the knee following fracture of the thigh was due in part to a coincident sprain of the joint; only in the joints of the fingers did he think immobilization was liable to cause persistent rigidity, and he therefore had considered it necessary, in treating fractures of the upper extremity, to make passive motion of the fingers at an early date. In relation to fractures in the neighborhood of joints in which the joint was not injured, he had no apprehension of ankylosis; but when the joint was directly involved in the fracture, there was reason to fear it as a consequence of the change in the shape of the surfaces or of the arthritis. One argument advanced in support of early passive motion was that exuberant callus might be thereby molded or shaped so that it would less impair the motion of the joint; but the speaker thought this was purely theoretical and incapable of proof. His opinion was that the exuberant growth of bone seen in children was due to the stripping up or irritation of the periosteum, and the quieter the joint was kept, and the more complete the reduction of the displacement, the less the irritation of the periosteum. His treatment in fractures was to leave the parts quiet for three or four weeks, inspecting them once or twice a week to make sure that the fragments remained reduced, and occasionally changing the angle at which the joint was held. When the splints were removed, the joint was always more or less stiff, but its range of motion usually increased rapidly. In hospital cases it was not easy to speak positively as to ultimate results, as it was difficult to follow them up.

Dr. Sands said that he was somewhat surprised to find his views concerning passive motion corresponded so closely with those of his colleagues, as he had come prepared to hear that their experience had led them to form on many points opposite opinions. He drew attention to the frequency of ankylosis after fracture of the elbow, compared with the occurrence of stiffness following fractures involving the hip, the knee, or the ankle; and he was unable to explain the difference except by assuming that the complicated bony structure of the elbow often interfered with proper reduction. He urged close attention to this point in the early management of these fractures. To put off what ought to be done at once, and to endeavor to prevent stiffness by employing passive motion, was a common and unfortunate delusion. He inquired of Dr. Peters whether the sprains of which he had spoken were severe.

Dr. Peters replied that two of them were. The results of treatment by massage were, however, very satisfactory, recovery having followed at an earlier period than usual.

Cancer of the Tongue.—Dr. F. Lange presented a specimen removed from a patient suffering from this affection, and gave the following history:

A very vigorous and otherwise well-preserved and healthy gentleman consulted me for a cancerous disease which had taken its origin from the fold between the margin of the tongue and the floor of the mouth on the right side, and, though not presenting to a great extent superficial ulceration, had infiltrated the soft parts toward the base of the tongue and in the suprahyoid region. A glandular infiltration along the large vessels on the right side likewise existed, and some enlarged glands could be felt in the submaxillary region of the left. About four months previously the first symptoms had appeared, and lately pain and suffering had become very severe. The main source of trouble was to the patient a perpetual abundant salivation, which had been hardly influenced by the division of the largest nerve, which had been done some time before by another surgeon.

The patient wanted to be relieved at all hazards, and, though the operation had been declined by a most competent surgeon of this city, I decided to do it for the following considerations:

Suppose that it was possible to form a new floor of the mouth by a plastic operation, after the very extensive loss of tissue to be expected in consequence of the operation, so that healthy mucous membrane could be turned against the oral cavity and the wounded surface excluded, we might avert the principal dangers following these operations —those of sepsis and "Schluchpneumonie." It would be necessary to remove the part of the horizontal ramus of the mandibula adjacent to the tumor, and the operation was done in the following manner: After preliminary tracheotomy, first on the left side, the contents of the submaxillary fossa were removed and the lingual and external maxillary arteries tied. A corresponding incision was then made on the opposite side and the infiltrated portion of tissue laid bare. The right half of the hyoid bone had to be resected also. Then, after cutting through the lower lip at a point corresponding to the external lower incisor-tooth, the soft parts, including the periosteum, were removed from the external surface of the horizontal ramus of the mandibula, and that portion of bone was removed. I then had very free access to the diseased parts, and, after first tying the lingual and external maxillary arteries, the mass of diseased tissue, down to the epiglottis and hyoid bone, could be rapidly removed with only very little loss of blood. So far, the patient had stood the operation very well. He had not suffered an excessive loss of blood, his pulse was good, respiration very quiet, the tamponade of the trachea acting very well. The mucous membrane of the left half of the floor of the mouth had been purposely preserved, and I now tried to unite the edge of it to the mucous membrane of the external surface of the removed alveolar process. In this attempt I encountered some tension corresponding to the base of the tongue, the parts of the right side not yielding sufficiently, on account of the ascending portion of the mandibula still being present. This, therefore, had to be removed, and it seemed to me as if the unavoidable manipulations connected with this act of the operation, and probably the irritation of the intra-maxillary nerve caused by it, contributed to a rather sudden deterioration of the pulse and appearance of the patient. After the artificial floor of the mouth had been formed, the external wounds were left open and loosely patched with iodoform gauze. I intended on the second or third day to do a secondary suture. The tracheal tampon-tube was replaced by the usual tracheotomy-tube. The patient rallied well after the operation. He had a fair pulse of about 112, became conscious, and expressed his satisfaction at the operation being over.

When I came to the hospital on the following day I found that the man had died rather suddenly. His temperature had risen to 107° F., and after a short time of unconsciousness he had expired. After the operation I had placed a soft-rubber catheter through his nostril into the œsophagus to avoid the passage of food or drink into the trachea. An autopsy was refused, and I am at a loss to say what the real cause of death was; possibly a very acute pneumonia or nephritis, which I have observed in a few cases after protracted ether narcosis. I also thought of the possibility that, by the influence of the ether, disintegration of a large portion of the red blood-corpuscles might have set free enough blood ferment to account for this sudden change.

The operation certainly lasted too long; but I think it could be much shortened by first tying the external carotid arteries on both sides. The perpetual cutting through bleeding vessels which have to be tied is indeed the main source of the dangerous prolongation.

In spite of the unfavorable issue in this case, I should follow the same plans in a similar case, while, on the other hand, I freely admit that such a risky undertaking, with regard to the best result that can be achieved, can only be justified by the miserable outlook which the patient will have if nothing is done.

In another case I should also carefully maintain the tracheal tamponade for some time after the operation. It struck me during the operation that, by sewing up the posterior part of the floor of the mouth, the epiglottis was somewhat drawn forward and the entrance to the larynx widely opened.

Vaginal Extirpation of a Carcinomatous Uterus; Recovery.—Dr. Lange then presented a specimen of a uterus removed from a married woman, about fifty-five years of age, in whom an advanced cancerous disease was, only shortly before the operation, detected, on account of an obstinate hæmorrhage causing an examination.

The operation was done after Martin's method, and was attended with a great deal of difficulty on account of the broad insertion of the supra-vaginal tissue in Douglas's space as well as toward the parametria, which latter, especially on the right side, were already somewhat affected. Coarse silk was used for all the preliminary ligations. Though some of the offensive contents of the uterine cavity, which in spite of free irrigation could not thoroughly be cleansed, had escaped during the operation into Douglas's space, no peritonitis followed, the after-treatment being the open antiseptic treatment with iodoform gauze loosely packed into Douglas's space and against the wound surfaces. The patient made a good and comparatively rapid recovery, so that, six weeks after the operation, she was discharged with only a small granulating surface at the end of the vagina. Though the prognosis with regard to the probable early recurrence of the disease was not flattering, still the patient had been benefited by the operation. She had picked up in strength, and her life would, at all events, be prolonged and made more tolerable. The cancerous affection included the whole cervix, and the infiltration reached somewhat above the internal orifice. The ovaries and tubes were left. Thiersch's spindles with a handle had proved to be very useful in this case also.

Book Notices.

A Text-book of Medicine, for Students and Practitioners. By Adolph Strümpell, formerly Professor and Director of the Medical Poliklinik at the University of Leipsic. Translated by permission from the Second and Third German Editions by Herman F. Vickery, A. B., M. D., Assistant in Clinical Medicine, Harvard Medical School, etc., and Philip Coombs Knapp, A. M., M. D., Physician to Out-patients with Diseases of the Nervous System, Boston City Hospital, etc. With Editorial Notes by Frederick C. Shattuck, A. M., M. D., Instructor in the Theory and Practice of Physic, Harvard Medical School, etc. With One Hundred and Eleven Illustrations. New York: D. Appleton and Company, 1887. Pp. xx–981. [Price, $6.]

Of the German text-books of practice that have been translated into English, Professor Strümpell's will probably take the highest rank. Between its covers will be found a very complete and systematic description of all the diseases which are classed under the head of internal medicine. Unlike most of the larger works on practice, it is without the preliminary discourse on general pathological subjects, an omission which is very much to be commended, because there are at the present day so many special treatises upon pathological subjects that there is no longer a necessity for such a section in a work of this kind. The author begins his treatise with a section upon General Diseases, under which head are included all the essential fevers, the exanthemata, malarial diseases, cholera, dysentery, yellow fever, etc. While it is impossible to refer to all these particularly, we may call attention to the chapter on Typhoid Fever as being especially valuable, not only on account of the advanced views in regard to the pathology of that disease, but also because of the careful description of its clinical history and of its treatment.

The German works on practice are all lacking in those graphic descriptions which are found in such a book as Watson's, but we get in Strümpell a more interesting account of the clinical phenomena than is ordinarily found. In this respect it will compare favorably with the works of von Niemeyer and Eichhorst.

Under the head of Diseases of the Respiratory Organs the author includes diseases of the nose, larynx, trachea, lungs, bronchi, and pleura. The section on the Treatment of the Diseases of the Upper Air-passages, while it is necessarily somewhat brief, is nevertheless a sufficient guide to the general practitioner or to any one who does not aspire to a special knowledge of these affections. The paralyses of the laryngeal muscles, for instance, are disposed of in less than four pages, but the section contains all that any one but a specialist is likely to require. Other more common affections are treated of somewhat more extensively. We note more especially the excellence of the article upon Croupous Pneumonia, and also that upon Tuberculosis of the Lungs. The author adopts Koch's theory in its entirety, and apparently believes in the contagiousness of tuberculosis, but we do not notice any specific statement in regard to that question. He includes under the tubercular processes all the different varieties of pulmonary consumption, the ordinary chronic phthisis, and fibroid induration of the lungs. There is no new point in regard to treatment. The subject of the pneumatic treatment of consumption, which is attracting so much attention at present in this country in consequence of the introduction of Dr. Williams's pneumatic cabinet and the writings of Cohen and others, is dismissed with the statement that "pneumatic treatment by inhalations of compressed air may sometimes give good results in cases of incipient phthisis." It is to be hoped that something far better than this may be the outcome of the experiments that are being tried in various quarters.

The next section is upon the Diseases of the Circulatory Organs. The article on Acute Endocarditis is very carefully written and contains many interesting and valuable points. The author does not draw so clear a line of demarcation between the vegetative and ulcerative forms of the disease as is done by many writers. However, in the present state of our knowledge of the subject, he is probably more nearly correct than those who attempt to make a more distinct classification.

The valvular diseases of the heart receive less space than they are entitled to in view of their prevalence and importance. The clinical pictures of disease in this section are particularly scanty, and we think that an important omission is that of not giving sufficient consideration to the collateral symptoms by which the diagnostician is assisted in estimating the extent of the valvular lesions and the condition of the cardiac muscle. The treatment of the subject is marked by great accuracy, and the only unfavorable criticism that could be made is that the therapeutics of heart disease receives scarcely enough attention. One very important point, that of rest in the treatment of diseases of the heart, is scarcely alluded to.

The section on Diseases of the Digestive Organs is to some extent unsatisfactory, though no more than that of any other work on the practice of medicine with which we are acquainted. We miss particularly the careful treatment of atonic dyspepsia, or functional derangement of the stomach, a disease of great frequency in this country, and one which American practitioners have constantly to deal with. The chapter on Nervous Affections of the Stomach, or Nervous Dyspepsia, does indeed include a description of certain functional derangements such as occur in very sensitive or neurotic subjects, but the description is limited to the more aggravated forms, and such striking conditions as the nervous "gastroxynsis" of Rossbach and Kussmaul's "persistaltic restlessness." In the article on Neurasthenia this subject is also briefly alluded to. The Diseases of the Nervous System are more fully and more satisfactorily treated of in this than in any text-book of practice, unless it is Eichhorst's. The pathology is in the main accurate, and the clinical histories are carefully depicted, all the methods of diagnosis being described, and such slight treatment as is applicable to this class of diseases systematically detailed.

Under the head of Peripheral Diseases of the Nerves will be found many interesting and valuable studies of the various disturbances of sensibility and motility, which will be of great use to the student as an introduction to the study of the particular lesions.

Among the special diseases described we would call attention particularly to the treatment of Multiple Neuritis. The ætiology and pathology of the different forms of this disease are very carefully worked out, so that no point of any value is omitted. The clinical history of the different forms of neuritis is accurately given, and primary multiple neuritis receives special attention. The author has not omitted to allude to its pathological relationship to the endemic beri-beri of Japan and the East Indies. Among Vaso-motor and Trophic Neuroses are included Hemicrania, Progressive Facial Hemiatrophy, and Exophthalmic Goître. There are also some preliminary remarks upon vaso-motor trophic and secretory disturbances. The only fault that can be found with this section is that it is too short. The author has made it so interesting that one is disappointed that he has no more to say in it. The descriptions of the diseases of the spinal cord and its membranes are particularly lucid, and will be read with great pleasure by those who are beginning the study of this department.

We would refer, for example, to the author's treatment of locomotor ataxia, amyotrophic lateral sclerosis, and progressive muscular atrophy. The account given of the last two, and of the association of their pathology and symptoms with those of progressive bulbar paralysis, is such as to make the subject perfectly plain to one who has never before sounded the depths of neurology. In fact, all the inflammatory and degenerative changes of the spinal cord are very thoroughly and carefully described. The same may be said in regard to the diseases of the medulla oblongata. The section on the Diseases of the Brain is too extensive to receive an adequate notice in the space at our disposal. We will therefore content ourselves with a simple reference to the care and accuracy with which it has been prepared.

We have been very much interested in reading the part on Diseases of the Kidneys. The author's remarks upon albuminuria and its varying significance are judicious and in accordance with the views of the most advanced pathologists and clinicians. He does not accept the views of Sir William Gull and Dr. Sutton in regard to the changes in the arterioles in Bright's disease. His theory of the production of cardiac hypertrophy, so far as he commits himself, would seem to correspond more to that of Dr. George Johnson, that the increase in the blood-pressure is due to a tonic contraction of the arterioles, dependent in some way upon the deranged function of the kidney. In describing the treatment of chronic renal disease he does not, in our opinion, lay sufficient stress upon the importance of protecting the surface of the body from chilling. We have regarded it as one of the most important aphorisms in connection with the subject of chronic Bright's disease, in this climate at any rate, that the sufferers from this affection are of all people the most likely to take cold, and the prevention of this by means of flannel garments and warm clothing for the feet has been one of our fundamental principles of treatment.

The book concludes with a section upon Diseases affecting the Blood and Tissue-metamorphosis (constitutional diseases). This includes the so-called diathetic diseases, with the exception of tuberculosis and rheumatism. The former is considered with the diseases of the lungs, but why the latter, which is placed by the author among the diseases of the organs of locomotion, should be omitted from this section, while its near relative, gout, is included, we are unable to conceive.

The translators have been at great pains to convert the centigrade scale and metric system into those ordinarily used in this country and Great Britain; and, where pharmaceutical preparations are mentioned which are not in use in America, they have, as far as possible, given the American equivalents of them. The work is very carefully done. They have not, like most translators of German medical works, sacrificed the rules of English composition to an excessive accuracy of translation, but have given us a work which reads smoothly, and, while of course they have not attempted to secure great elegance of style, we are not continually shocked by those awkward Germanisms which we constantly meet with in some other translations. Dr. Shattuck's notes are always well timed and frequently contain valuable information. If we may be allowed one criticism, we should say that we regret that in preparing the article on sunstroke he entirely neglected to give credit to Professor Wood, of Philadelphia, for his valuable work on that subject.

In order to get so much matter into one volume it has been necessary to use rather smaller type than might be desired, but the printing is so carefully done, and the proofs have been so fully revised, that it makes the reading, after all, very easy. The illustrations, particularly in the section on Nervous Diseases, are valuable aids to the interpretation of the text. The diagrams illustrating the lesions of the spinal cord are particularly valuable to the student in his reading of this complicated subject. Taken altogether, it is one of the most valuable works on practice that we have, and one which every studious practitioner should have upon his shelves.

A Manual of Obstetrics. By A. F. A. King, A. M., M. D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the Columbian University, Washington, D. C., etc. With One Hundred and Two Illustrations. Third Edition. Philadelphia: Lea Brothers & Co., 1886. Pp. xxiii–25 to 379.

This useful little volume appears in a revised shape, and commends itself to the reader by reason of its terseness of style and intrinsic common sense. We note with surprise the omission of Hegar's sign of early pregnancy, the retention of some obsolete, not to say mischievous, ideas regarding the delivery of the placenta (page 148), and the administration of ergot before the uterus is emptied (page 267). The practical directions regarding the management of normal labor are excellent. We have no hesitation in commending the book as a valuable aid to the student, though not to the exclusion of the larger treatises.

BOOKS AND PAMPHLETS RECEIVED.

Gout and its Relations to Diseases of the Liver and Kidneys. By Robson Roose, M. D., F. C. S., Fellow of the Royal College of Physicians in Edinburgh, etc. Third Edition. London: H. K. Lewis, 1887. Pp. xii–164.

Pleurotomy for Empyema; Recovery. By F. C. Fernald, M. D., of Washington, D. C. [Reprinted from the "Journal of the American Medical Association."]

Eighteenth Annual Report and By-laws of the New York Physicians' Mutual Aid Association.

A Text-book of Pathological Anatomy and Pathogenesis. By Ernst Ziegler, Professor of Pathological Anatomy in the University of Tübingen. Translated and Edited for English Students by Donald MacAlister, M. A., M. D., Fellow of the Royal College of Physicians, etc. Part II. Special Pathological Anatomy. Sections ix–xii. London and New York: Macmillan & Co., 1886. Pp. xii–3 to 391. [Price, $3.50.]

Tubercular Consumption—Is it ever Inherited? By Henry D. Didama, M. D., of Onondaga County. [Reprinted from the "Proceedings of the New York State Medical Association."]

The Truth about Alcohol. By Robert Alexander Gunn, M. D. New York: Belford, Clarke, & Co., 1887. Pp. 4–5 to 73.

Ligation of the Vertebral Arteries for the Relief or Cure of Epilepsy. By J. L. Gray, M. D., Chicago.

Rest for Painful Eyes. Is this Advice always Good? By Julian J. Chisolm, M. D., Professor of Eye and Ear Diseases in the University of Maryland, etc. [Reprinted from the "Maryland Medical Journal."]

A Contribution to the Study of Tumors of the Spinal Cord. By B. Sachs, M. D. [Reprinted from the "Journal of Nervous and Mental Disease."]

Biennial Report of the Alabama Insane Hospital at Tuscaloosa. For the Years ending 30th September, 1885 and 1886.

Constitution and By-laws of the Alabama Surgical and Gynæcological Association.

Report of the Surgeon-General of the Army to the Secretary of War for the Fiscal Year ending June 30, 1886.

Sixty-sixth Annual Report of the New York Eye and Ear Infirmary. For the Year ending September 30, 1886.

Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States. For the Fiscal Year 1886.

Sterility. Management of the Secundines. By William H. Wathen, M. D., Professor of Obstetrics and Diseases of Women and Children in the Kentucky School of Medicine, etc. [Reprinted from the "Southwestern Medical Gazette."]

Report on Diseases of the Rectum. By Joseph M. Mathews, M. D., Professor of Principles and Practice of Surgery and Diseases of the Rectum in the Kentucky School of Medicine, etc. [Read before the Kentucky State Medical Society at Winchester, June 24, 1886.]

Papers on Hypertrophy of the Prostate Muscle. By Reginald Harrison, F. R. C. S. [Reprinted from the "Lancet."]

Twentieth Annual Report of the Columbia Hospital for Women and Lying-in Asylum. For the Fiscal Year ending June 30, 1886.

Rhinology in the Past and of the Future. An Address delivered before the American Rhinological Association on October 5, 1886, at St. Louis, Mo. By Carl H. von Klein, A. M., M. D., of Dayton, Ohio. [Reprinted from the "Journal of the American Medical Association."]

Reports on the Progress of Medicine.

OBSTETRICS.

By HENRY C. COE, M. D.

Erysipelas and Puerperal Fever.—Gusserow ("Archiv. für Gyn.," Bd. xxv) presents a paper on this subject based upon an analysis of fourteen cases. After referring to the fragmentary state of our knowledge concerning the relation between these affections, he reviews the work of Hugenberger, Fehleisen, and others, and then calls attention to the discovery of the coccus of erysipelas as indicating the specific nature of the disease. From the history of the fourteen cases in which the latter developed after delivery, Gusserow shows that evidences of puerperal sepsis were present before the erysipelatous eruption appeared, the advent of the latter complication causing no additional symptoms except an increased elevation of the temperature or pneumonic trouble. In fatal cases the ordinary evidences of septicæmia were observed; but in no instance was there any indication that the septic poisoning was connected with phlegmonous erysipelas. Experimental inoculations were made with pure cultivations of erysipelas-cocci, rabbits being the animals selected. In every instance where the fluid was introduced beneath the skin of the ear a genuine erysipelatous inflammation was produced, attended with well-marked general symptoms. Numerous injections of fluid containing cocci were made into the peritoneal cavity, but these never gave rise to any septic trouble—conclusive evidence that there is no direct relation between erysipelas and puerperal fever. Can septic uterine discharges, on the other hand, give rise to erysipelas? No cases have been observed in practice, and the bacteria characteristic of various septic and pyæmic inflammations have not yet been sufficiently differentiated to allow of any positive deductions from experimental inoculations. Assuming that no inflammatory process, however closely it may resemble erysipelas, can properly be regarded as the latter affection, unless its peculiar cocci are found and can be cultivated and successively inoculated, it may be affirmed that erysipelas has never been produced by inoculations with any septic matter derived from a patient with puerperal fever.

Expectant Treatment in the Third Stage of Labor.—Dr. Felsenreich ("Wiener Klinik," 1886, Hft. i), writing on this subject, refers to the uncertainty which exists in the minds of the profession with regard to the indications for interference in cases of retained placenta. He does not approve of Ahlfeld's recommendation to wait for an hour and a half or two hours after the birth of the child, and then to be content with simply emptying the bladder and compressing the fundus uteri, instead of employing Credé's method, since this expectant treatment increases the danger of septic infection; rough or unskillful manipulations may do more harm than good. To support this statement, he cites the statistics of Professor Carl Braun's clinic for four years and a half, including 13,904 cases. It was only necessary to detach the placenta artificially in 51 cases (0·37 per cent.); ten of these patients suffered from septic trouble, and one died. The mortality from septic causes was 0·44 per cent., the entire death-rate being 6·78 per cent. These results he regards as conclusive evidence in favor of Credé's method.

[There is a cogency in the arguments of German writers, founded as they are upon elaborate and carefully prepared statistics, which admits of no questioning. To any one who is familiar with the thorough manner in which cases are observed and recorded in the Vienna lying-in wards, a bold numerical statement like this carries more weight than the vague theories of any single practitioner, no matter how extensive his experience may have been.]

Injuries of the Vagina and Perinæum in Normal and Artificial Delivery.—Professor Freund ("Gynäkolog. Klinik"; "Ctrlbl. für die ges. Therapie," 1886, Hft. xii) considers these lesions in order from above downward, from the *portio vaginalis* to the outlet. The former are secondary to lacerations of the cervix; lesions in the middle portion of the vaginal canal are usually lateral, while at the pelvic floor they are posterior, and near the vulva anterior. Posterior and lateral tears are caused by the pressure of the child's face; anterior, by the occiput. Certain conditions of the soft parts predispose to laceration, chief among which are old cicatrices (from former inflammation or operations), congenital narrowing of the canal, abnormal bony prominences, and rigidity in old primiparæ; in these cases the laceration is often "atypical"—that is, it does not always occur precisely at the point where there is the greatest pressure. The application of the forceps, of course, adds to the risk of laceration, since it not only increases the dimensions of the head which it grasps, but also, when it is not perfectly adjusted, presents an unyielding edge to the soft parts. The lesions correspond in their situation to those produced during spontaneous delivery, but are deeper and more extensive; oblique and transverse tears of the anterior or posterior vaginal column are characteristic lesions in forceps-deliveries when the blades have been unskillfully adjusted. Tarnier's forceps presents no advantages over the ordinary variety as regards the avoidance of such injuries; Freund restricts its use to cases in which the head is arrested at the superior strait, or has not yet become engaged, preferring to substitute the latter for Tarnier's modification as soon as the head has fairly entered the canal.

Recent tears (non-fistulous) should be sutured at once; if small fistulous openings have been made, they are to be plugged with antiseptic tampons. It is necessary to secure absolute approximation of the torn surfaces in primary as well as in secondary operations upon the vagina and perinæum.

Palpation of the Shoulder as a Means of Diagnosticating the Position of the Head.—Dr. Rivière ("Nouv. arch. de gynéc. et d'obstétrique," Oct., 1886) concludes an interesting paper on this subject with the following deductions: 1. We can not have too many aids for determining the exact position in head-presentations. 2. Although the frontal protuberance may often be felt, it is sometimes out of reach. 3. If the shoulder can be palpated, in addition to the latter, the diagnosis becomes easy and certain. 4. The shoulder, when felt, gives sufficient evidence regarding the position. 5. The shoulder always occupies the same half of the pelvis as the occiput, lying on the left in first position, on the right in second. 6. When the head is engaged, the shoulder is immediately above the superior strait, lying on the left side in first positions, on the right in second, while the frontal eminence is opposite to it. When the head is movable at the brim, the frontal bone can not be felt, and then the position of the shoulder furnishes valuable information. 7. In many cases palpation of the shoulder alone enables the accoucheur to determine the exact position of the fœtus. If the occiput is anterior, the shoulder forms a broad, but not prominent, projection in the median line; in the posterior variety it is felt as a smaller but longer projection, situated from two and a half to three inches to one side of the median line.

Retroversion of the Gravid Uterus.—Pinard and Varnier (*ibid.*, Nov., 1866) have made a careful clinical and anatomical study of this condition, their conclusions being as follows: 1. Cicatricial contraction of the pelvic connective tissue, especially in the broad and utero-sacral ligaments, rarely results in retroversion and fixation of the gravid uterus. The frequency of intra-pelvic adhesions has been exaggerated; when they do exist, pregnancy causes them to soften and become extensible. 2. Adhesions between the bladder and uterus and the intestine, or between the latter and the pelvic tissue, may prevent the gravid organ from ascending; in short, they may fix it in the pelvis. Although the tissues in the immediate vicinity of the uterus are modified by the pregnant condition, the extensibility of old *extra-uterine* adhesions is not affected.

[These deductions possess no slight interest in view of the great frequency of intra-pelvic intestinal adhesions in women who have had slight attacks of peritonitis. The preceding facts bear also upon the treatment of gynæcological retroversion.]

Extraction of the After-coming Head.—Winter ("Ztschr. f. Geb. u. Gynäk."), in an elaborate paper upon this theme, deduces the following conclusions, based upon a comparison between the Leipsic and Berlin statistics: 1. The Veit-Smellie method of extraction has always given the best results whenever it has been thoroughly tried, and has largely superseded the forceps. 2. The method that originated in the Prague school has become obsolete. 3. No child can be saved by applying the forceps to the after-coming head that can not also be extracted alive by the proper and vigorous use of the first-mentioned method. 4. Manual extraction fulfills the indications more perfectly than instrumental. 5. It is less often necessary to perforate the after-coming head when manual extraction is practiced than when previous attempts have been made with the forceps.

Anæsthesia during Labor.—Veit (*ibid.*), discussing a paper with this title, read by Cohn before the Obstetrical and Gynæcological Society of Berlin, remarked that the prevailing opinion that chloroform during labor was rather a luxury, applied properly only to multiparæ during the stage of expulsion. Chloroform was preferable to bromide of ethyl, especially where profound narcosis was not necessary. The extreme pain in the region of the vulva (the condition almost resembling vaginismus) experienced by many women during the expulsive stage, retarded the labor by preventing them from contracting their abdominal muscles strongly; moderate anæsthesia eliminated this opposing factor, and thus hastened delivery. Except in rare instances, actual narcosis was necessary before the forceps could be introduced. Veit had never seen (in either mother or child) any bad effects follow the administration of chloroform.

Bokelmann did not agree with the former speaker in regard to the innocuous effects of the anæsthetic, as he had seen two cases of alarming asphyxia during labor.

Schröder had never observed any cases of asphyxia in the mother, and thought that they must be extremely rare. Profound narcosis might cause the death of the child within a few hours after its birth.

Cohn had noted two cases of asphyxia in women who had been anæsthetized, first with bromide of ethyl, and subsequently with chloroform.

Miscellany.

The Medical Society of the State of New York.—The chairman of the committee of arrangements informs us that arrangements have been made with the Delaware and Hudson Canal Company's railroad to sell return tickets for one third of the usual fare, on presentation of a certificate issued by the secretary, at the meeting, that the holder is entitled to the reduction; that an arrangement has been made with the New York Central and Hudson River Railroad to sell return tickets at half fare; and that it is altogether probable that the same arrangement will be made with the West Shore Railroad. The tickets will be good up to and including February 6th.

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending January 20th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending January 1, 1887, correspond to an annual death rate of 25·1 to a thousand of the aggregate population. The lowest death rate was recorded at Blackburn, viz., 16·8 to a thousand, and the highest in Halifax, 36 to a thousand.

Scotland.—The death rate in eight principal towns during the week ending January 1, 1887, was 26 to a thousand of estimated population. The lowest mortality was recorded in Perth, viz., 16·4 to a thousand, and the highest in Glasgow, viz., 32·9 to a thousand.

Ireland.—The average annual death rate represented by the deaths registered during the week ending January 1st, in the sixteen principal town districts of Ireland, was 33·8 to a thousand of population. The lowest mortality was recorded in Lisburn, 9·7 to a thousand, and the highest in Waterford, 53·3 to a thousand.

Edinburgh.—During the week ending January 1st there were 83 cases of scarlet fever reported, 15 cases of enteric fever, and 1 case of typhus fever.

London.—There were 1,899 deaths registered in London during the week ending January 1st, including 114 from measles, 25 from scarlet fever, 9 from diphtheria, 27 from whooping-cough, 17 from enteric fever, 1 from an ill-defined form of continued fever, 15 from diarrhœa and dysentery, and 1 from choleraic diarrhœa. Different forms of violence caused 74 deaths. Sixty-six were the result of negligence or accident, and 7 cases of suicide were registered.

Austro-Hungary.—At Iglo there were 23 deaths from cholera up to December 9, 1886. At Buda-Pest there were in all 1,329 cases, including cases at first called suspicious, and 586 deaths. At Fiume, from June 6th to November 6th, there were 260 cases and 161 deaths. At Trieste, from June 6th to November 6th, there were 896 cases of cholera and 557 deaths, but the epidemic was declared over on December 2, 1886.

Japan.—After the outbreak there were during the year, up to December 6, 1886, 153,930 cases of cholera and 100,492 deaths. At

Yokohama, from July 1st to November 5th, there were 3,021 cases and 2,273 deaths. At the latter date the city was declared free from cholera.

Calcutta.—There were 345 deaths registered during the week ending December 4th, including 107 from cholera, 77 from fevers, 45 from bowel complaints, 32 from tetanus, 19 from phthisis, and 4 from asthma.

Havana.—During the week ending January 6, 1887, there were 132 deaths from all causes, including 1 from yellow fever.

Pernambuco, Brazil.—During the week ending December 17th there were 62 deaths from all causes, including 2 from yellow fever.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Estimated population.	Week ending—	Total deaths from all causes.	Annual rate of mortality in 1,000.
Calcutta..........	433,219	December 4.	345	41·4
Para..............	30,000	December 26.	46	79·7
Warsaw.........	431,572	December 18.	214	25·7
Rheims...........	98,083	January 1.	40	21·2
Cadiz.............	65,028	December 25.	89	71·2
Zurich............	87,689	December 25.	33	19·6
Trieste...........	150,157	December 25.	94	32·5
Edinburgh........	254,591	December 18.	89	18·2
Leith......	70,329	December 18.	22	16·3
Stuttgart..........	125,510	December 31.	38	15·7
Barcelona.........	300,000	December 10.*	293	35·6
Kingston, Can.....	15,109	January 14.	3	10·3
Three Rivers, P. Q.	10,000	January 8.	5	26·0
Gibraltar..........	†23,731	December 26.	11	24·2
Leipsic...........	170,000	January 1.	56	17·1
Munich...........	262,000	December 25.	143	28·4
Cape Haytien......	10,000	January 1.	4	20·8
Bremen...........	118,000	December 25.	23	10·1
Toronto...........	120,000	January 8.	12	5·2
Vera Cruz.........	23,800	December 30.	18	39·3
Marseilles.........	376,000	December 26.	204	28·2

Warsaw.—The 214 deaths registered during the week ending December 18th included 3 from small-pox.

Rheims.—The 40 deaths registered during the week ending January 1st included 4 from small-pox.

Marseilles.—The 204 deaths registered during the week ending December 26th included 3 from small-pox, 5 from enteric fever, and 10 from diphtheria.

Para.—The 46 deaths registered during the week ending December 26th included 2 from yellow fever.

Guaymas.—The 58 deaths registered during the month ending December 31, 1886, included 31 from small-pox.

Zurich.—The 33 deaths registered during the week ending December 25th included 8 from small-pox.

Trieste.—The 94 deaths registered during the week ending December 25th included 3 from diphtheria.

Barcelona.—The 319 deaths registered during the ten days ending December 20th included 17 from enteric fever, 34 from scarlet fever, and 9 from diphtheria.

Leipsic.—The 56 deaths registered during the week ending January 1, 1887, included 2 from measles, 3 from scarlet fever, and 2 from diphtheria.

Munich.—The 143 deaths registered during the week ending December 25th included 5 from scarlet fever and 3 from diphtheria.

Toronto.—The 12 deaths registered for the week ending January 8, 1887, included 2 from diphtheria.

Vera Cruz.—The 18 deaths registered during the week ending December 30th included 13 from diphtheria.

Stuttgart.—The 38 deaths registered during the week ending December 31st included 1 from typhus and 2 from diphtheria.

Germany.—The mortality during the week ending December 18, 1886, in twenty-one large cities, with an aggregate population of 4,625,257, including Berlin (in which the rate was 22·3), was equal to an average annual death rate of 27·2 to a thousand.

Buenos Ayres.—The United States consul at Buenos Ayres, in his report dated November 27, 1886, states that "the cholera during the last week has assumed no new or more decided phase, but, on the contrary, seems to have not only taken a milder type, but to have, in a great measure, disappeared from the city, there being only 3 new cases yesterday, and they were in one of the city hospitals." No official confirmation of the press reports of the existence of cholera on the west coast of South America has yet been received. The latest telegram, from Santiago, dated January 17th, states "no cholera at Chilian ports."

Montevideo.—The United States consul, under date of January 19th, reports by cable that cholera has been officially declared at Montevideo.

The Paris Faculty.—"Progrès médical" announces that Dr. Pinard is now charged with the obstetrical and gynæcological clinic, in place of Professor Pajot, retired.

The State Lunatic Asylum at Utica.—The "Utica Daily Press" announces the abolition of mechanical restraint in the asylum.

A Bill to Regulate the Practice of Dentistry is to be introduced into the Massachusetts Legislature. It proposes to have the Governor appoint "five skilled dentists of good repute" as a board of registration in dentistry. Within six months after the passage of the act every person then practicing dentistry must be registered with this board. Every one who has practiced not less than three years may receive a certificate to that effect, and continue to practice; and all persons regularly graduated from any reputable dental college authorized to grant degrees in dentistry shall be entitled to certificates. All others may obtain certificates from the board by passing satisfactory oral and written examinations. Each person examined shall pay a fee of $10, which shall go toward carrying out the provisions of the act, and no part of the expenses of the board shall be paid from the State treasury. Every person receiving a certificate shall register the same with the clerk of the county in which he resides, paying a registration-fee of $1. Severe penalties are provided for a violation of the act.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality," there were 491 deaths during the month of December, including 3 from cholera infantum, 58 from croup and diphtheria, 1 from cerebro-spinal meningitis, 3 from diarrhœa, 1 from erysipelas, 13 from typhoid fever, 1 from malarial fever, 3 from septicæmia, and 1 from scarlet fever.

Laryngology at the College of Physicians and Surgeons.—The next lecture in Dr. Lefferts's course, on Tuesday, February 1st, at 2 P. M., will be on "Nervo-muscular and Sensory Affections of the Larynx; Neuroses of Sensation."

THERAPEUTICAL NOTES.

The Physiological Action of Vanillin.—Grasset ("Arch. de pharm.," Aug., 1886; "Ctrlbl. f. d. ges. Therap.," Jan., 1887) has found vanillin fatal to frogs in doses of from three quarters to nine tenths of a grain, but has not ascertained that there is a toxic dose for the higher animals. In frogs, it acts chiefly on the spinal cord, causing convulsions followed by a depressing effect on the motor nerves, those of sensation being unaffected; its action, therefore, being that of strychnine, but much milder. It seems to delay putrefactive fermentation. It is antagonized by chloral. Therapeutically, it may be used, in doses of three quarters of a grain, as an aid to digestion, especially in atonic and putrefactive dyspepsia, or as a corrigent of drugs which, like chloral, are not well borne by the stomach; also, in doses of from three to four grains, in mucilage, as an excito-motor.

An Anodyne for Dental Caries.—Dr. K. Gsell-Fels ("Corresp.-Bl. f. schweiz. Aerzte"; "St. Petersb. med. Woch.") recommends the following mixture:

Rasped camphor......................	5 parts;
Chloral hydrate.........................	5 "
Cocaine hydrochloride.................	1 part.

On heating the mixture to the boiling point of water, an oily liquid is formed. This is to be applied lightly, and it is said that after a few applications the pain will surely be alleviated.

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* 10 days.

† Including military.

THE NEW YORK MEDICAL JOURNAL, FEBRUARY 5, 1887.

Lectures and Addresses.

AN ABSTRACT OF
THE MIDDLETON GOLDSMITH LECTURES
ON MULTIPLE NEURITIS
AND ITS RELATIONS TO CERTAIN PERIPHERAL NEUROSES.

By M. ALLEN STARR, M. D., Ph. D.,
PROFESSOR OF NERVOUS DISEASES IN THE NEW YORK POLYCLINIC.

Lecture I.

HISTORY.—The first cases of multiple neuritis were described by an American physician, Dr. James Jackson, of Boston, in 1822 ("New England Journal of Medicine and Surgery," vol. xi, p. 351). In a paper "On a Peculiar Disease resulting from the Use of Ardent Spirits," which he named arthrodynia, Dr. Jackson gave a most graphic picture of one form of multiple neuritis. [The lecturer gave a long quotation from Dr. Jackson's paper, and added that the description, even at the present day, could not be improved upon.] Magnus Huss was the next, in 1852, to write upon chronic alcoholism, and he divided its nervous symptoms into paralytic, anæsthetic, convulsive, epileptic, and hyperæsthetic, and attributed them to lesions in the central nervous system. His description was amplified and completed by Lancereaux in 1864, in an article on "Alcoholism," in the "Dictionnaire encyclopédique des sciences médicales." But the pathology of the disease was still a matter of speculation.

In 1855 Duchenne ("Électrisation localisée") recorded a number of cases which we now recognize as multiple neuritis, and grouped them together under the title of *paralysie générale spinale subaigue ascendante*, because he thought the symptoms were due to a gradual advancing lesion in the cord. In the only case in which he made an autopsy he found no change in the cord. From 1860 to 1865 the French school took the lead in microscopic studies of nervous lesions, and their observations lent color to Duchenne's hypothesis, for it was found that such symptoms as numbness, pain, and anæsthesia were associated with lesions of the posterior columns of the spinal cord, and it was also proved that atrophic paralysis was caused by a degeneration of the anterior gray horns of the cord, not necessarily visible to the naked eye. Then atrophic paralyses were invariably referred to spinal lesions, because those lesions were capable of causing atrophic paralysis. But facts soon began to accumulate which did not tally with this theory. Cases of atrophic paralysis were met with in which there was no spinal lesion. In 1864 Duménil ("Gaz. hebdom. de méd. et de chir.," 1864, p. 203, and 1866, No. 4) recorded the first case in which an autopsy established the existence of a widespread disease in the peripheral nerves as a cause of sensory, motor, and trophic symptoms. The patient suffered from pain and numbness below the knees and in one hand, from patches of anæsthesia, and from paralysis of the legs and one hand and forearm. There was atrophy of the muscles of the hand and forearm, and faradaic contractility was abolished in all the paralyzed muscles. He died in four months and a half, and at the autopsy the spinal cord and the nerve roots were found normal. The finer nerve branches in the legs and hands were degenerated, only a small number of nerve fibers being found. The myelin sheath was segmented and granular, there were many fat cells, and the connective tissue was increased. Two years later the same author reported another case, and published an elaborate article on peripheral paralysis, in which he said: "My own observations have convinced me firmly that many paralyses of obscure origin are caused by true spontaneous neuritis" ("Gaz. hebdom. de méd. et de chir.," 1866, No. 4).

Ten years elapsed before another case of similar nature, accompanied by a record of a post-mortem examination, was published by Eichhorst, of Berlin. In this case the spinal cord was absolutely normal, but several of the nerve trunks showed macroscopic and microscopic evidences of interstitial inflammatory changes (Eichhorst, Virchow's "Archiv," lxix, 1876, p. 265). This was the first case, the lecturer thought, in which the microscopic appearances were described with sufficient detail to be satisfactory. The clinical history and post mortem of a case published by Joffroy three years later ("Arch. de physiol. norm. et path.," 1879, p. 172) were then cited. This case differed from Eichhorst's in not presenting any marked interstitial changes in the nerves. The affection was a true parenchymatous inflammation, with degeneration of the myelin sheath and the axis cylinder. In Leyden's two cases ("Zeitschr. f. klin. Med.," 1880) the lesion corresponded quite closely with that found in Eichhorst's case. Leyden now undertook a review of atrophic paralyses, and made the following grouping: 1. Poliomyelitis anterior, acute and chronic, occurring in children and in adults. 2. Progressive muscular atrophy, with its corresponding tubular affection, glosso-labio-laryngeal paralysis. 3. Pseudo-hypertrophic paralysis. 4. Multiple neuritis. In this article Leyden established the status of multiple neuritis as a distinct disease. During the following two or three years a number of cases of multiple neuritis were published. A case of alcoholic paralysis, by Lancereaux ("Gaz. hebdom. de méd. et de chir.," 1881, p. 120), and one of multiple neuritis, by Grainger Stewart ("Edinb. Med. Jour.," April, 1881), were then cited to complete the clinical picture of the affection.

Before discussing the changes occurring in inflammations of the nerves, the lecturer reviewed the normal anatomy of nerves somewhat as follows: A nerve consists of (1) the axis cylinder; (2) the myelin sheath; and (3) the sheath of Schwann, a connective-tissue membrane surrounding the myelin sheath. Individual fibers are associated in bundles held together by fine connective-tissue cells, the nuclei of which can be seen in a carmine- or fuchsine-stained preparation, lying always adjacent to, but outside, the sheath of Schwann. This has been called the endoneurium, while the connective tissue surrounding the entire bundle is named the perineurium or neurilemma. Capillary vessels, with free anastomoses, run within the nerve, their walls lying adjacent to the individual fibers, thus providing perfect nutrition. Lymph spaces have also been demonstrated within the nerve sheath, but not among the fibers.

PATHOLOGY.—There has been much controversy on this subject, and experimental pathological research has differed widely in its results. The reasons for this are that probably the rapidity and even the character of the changes differ in different animals, that various methods of investigation have been pursued by different observers, and that it is uncertain whether a uniform pathological process goes on after experimental lesions. After a lesion of a nerve trunk, a process of degeneration sets in at the point of injury, and involves a small portion of the central end and the entire peripheral part of the nerve, from the seat of injury onward. This process may be more or less complete, and may or may not be followed by a second process of regeneration in the diseased nerve.

The Process of Degeneration.—When a nerve is compressed with a ligature or with a forceps, but not with force enough to rupture the sheath of Schwann, the myelin is driven away from the point of pressure in both directions, and the axis cylinder is disintegrated and mingled with it. The entire fiber on either side of the compressed spot is bulged out for some little distance, and the sheath of Schwann between the distended portions is left empty or containing only a little granular *débris.* In a short time changes of a degenerative character are observed on both sides. Those on the central side are limited to the immediate neighborhood of the injured spot, and, according to Ranvier, do not affect the nerve for a distance greater than a centimetre from the point of compression. On the peripheral side the degeneration is extensive, involving the entire nerve down to its finest terminations. The first change noticed is a breaking up of the myelin sheath into segments, and then into smaller pieces and drops, which finally undergo further degeneration, either fatty or albuminoid or by a process of saponification, until a finely granular mass alone remains. The granular mass may be gradually absorbed, leaving the sheath of Schwann collapsed and empty or containing only granules of *débris.* As the myelin undergoes these changes, the axis cylinder usually becomes involved. All authors, however, are not agreed upon this point, some holding that it remains intact and is capable of resuming its function at any time when regeneration of the myelin sheath has taken place. The sheath of Schwann also takes part in the process of degeneration. Numerous nuclei are seen lining this sheath in each interannular segment. The origin or source of these nuclei is a disputed point. Ranvier holds that they come from a segmentation of the original nucleus of the segment; Neumann and Mayer that they are a free formation originating in the granular or protoplasmic mass; Lizzoni that they are emigrated corpuscles; and Rosenheim that they come from the connective-tissue cells along the sheath, which divide and multiply, and show the power of emigration as soon as the process of degeneration begins. When the granular mass is absorbed, the nuclei remain scattered along the sheath of Schwann, and it has been suggested that they form the new axis cylinder when regeneration occurs. If no regeneration takes place, they disappear gradually, and then the only relic of the former nerve fiber is the empty, collapsed sheath of Schwann, which remains as a connective-tissue strand.

The increase of nuclei and connective-tissue fibrils in the endoneurium and perineurium, which accompanies the process of degeneration, aids in the transformation of the nerve into a band of connective tissue. The process of degeneration is continued to the terminal plates upon the muscle, and these are changed into a mass of granules and finally absorbed, a connective-tissue plate being left. (Gessler, "Dié motorische Endplatte und ihre Bedeutung für die Peripherielähmung.") Whether any changes occur in the sensory terminal organs, such as the tactile corpuscles and the terminal bulbs, has never been ascertained. The same results follow division of a nerve as take place after its compression, with the difference that at the point of section the myelin runs out of the sheath of Schwann, and the cut ends become swollen into bulbous extremities by a growth of connective tissue. Whether a true union of the divided ends ever occurs is still a matter of uncertainty.

The Process of Regeneration.—Two widely divergent views obtain regarding the method of this process. Ranvier and his followers maintain that the new nerve is wholly a product of the central end of the injured nerve, growing out from it and making its way along the tract of the peripheral end, which takes no active part in the process. Neumann and Mayer, on the contrary, believe that regeneration goes on in the peripheral end of the cut nerve, segment by segment being formed successively, beginning at the point of injury and proceeding outward, the entire nerve being built up by the union of each distal segment with the one lying centrally to it, until this process has reached the end.

The process of degeneration in the nerves consequent upon the destruction of the ganglion cells from which they arise (the so-called Wallerian degeneration) differs in no respect from that ensuing upon compression or division, excepting that in the latter case only the distal part of the divided nerve undergoes the pathological change, while in the former it is the entire nerve that is affected. In the changes described in multiple neuritis, the same progress of events, the same varieties of termination, are observed. Multiple neuritis, from a pathological standpoint, presents several varieties. In the greatest number of cases there is a parenchymatous inflammation in the nerve fiber visible only with the microscope. At the outset the myelin sheath is slightly swollen, and is less translucent; it then splits up into segments of different lengths and forms, and between the segments there is to be seen a finely granular protoplasm in which new nuclei are found. In some fibers the axis cylinder may still be preserved; in others it is broken at the same place as the myelin. At the next stage of the process the myelin is reduced to a series of small globules, surrounded everywhere by granular protoplasm, and in this protoplasm the nuclei are now very numerous. The axis cylinder can not be distinguished in the mass, as a rule, but occasionally a fine line is seen passing through the mass, which may be a remaining cylinder. In the succeeding stage the size of the nerve, which had before remained about normal and uniform, is seen to vary; the nerve fiber becomes narrow in places, the mass having disappeared, and there is left a collapsed sheath, or a sheath containing only nuclei here and there. Rarely in these nerve fibers does an axis cylinder seem to be lying directly within the sheath of Schwann, and occasionally separated from it at various places by nuclei. As a rule, no trace of the axis cylinder is to be distinguished. In the terminal stage the caliber is uniform again, but is now everywhere reduced. The sheath of Schwann is empty or contains only a little granular substance; the nuclei are now less numerous than before. There is, in fact, only an atrophic tube with none of its original contents. These tubes, lying side by side, are folded and undulating, and appear like a strand of connective tissue. These various stages of parenchymatous inflammation are to be seen in different fibers in the same specimen, and are identical in appearance with the changes observed in degeneration of a nerve after compression, or after destruction of the spinal ganglion cells.

A second class of cases presents a different appearance. The changes are appreciable to the naked eye; the nerve is either congested, swollen, and lacking in luster, or it is yellow and irregularly swollen by the accumulation of fat, or it is evidently reduced to a mere connective-tissue strand. On teasing the nerve, it is at once clear, from its brittleness, that individual fibers are lacking in continuity and are changed in structure; and, if it is examined with the microscope, the exudation of serum and of lymphoid bodies, the great increase in the number of connective-tissue nuclei, and the distended condition of the vessels, as well as the various appearances characteristic of nerve degeneration, are clearly seen. Here the inflammation is either originally an interstitial inflammation or, more probably, a diffuse one. In both of the foregoing forms the pathological changes are more intense in, and are occasionally limited to, the peripheral terminations of the nerves.

Gombault ("Arch. de physiol.," 1873, p. 592) has described the so-called segmental circum-axillary neuritis. This form he found in toxic neuritis from lead poisoning; it is characterized by the alternation of normal with degenerated segments. The changes in the affected segments differ in no respect from that already described. Pitres and Vaillard ("De la névrite segmentaire," "Arch. de neurol.," xi, p. 337) have noticed a somewhat similar condition in the neuritis occurring after diphtheria, although in their case the axis cylinder as well as the myelin sheath was totally destroyed in many segments. The process of regeneration is usually a slow one; in the great majority of cases on record it took over four months, and in not a few cases from ten to sixteen months.

With the close of the year 1883 we may consider the third stage of pathological discovery in the history of multiple neuritis as terminating. Since that time about a hundred cases of varying degrees of severity have been observed.

The lecturer then referred to one or two forms of peripheral neuroses which he thought should be relegated to peripheral neuritis, one of which was the affection termed "numb fingers," first described by Dr. J. J. Putnam, of Boston. It is a disease chiefly seen in women between the ages of forty and sixty, usually associated with dyspeptic symptoms, but entirely independent of them. It is characterized by tingling in the fingers, felt first at night, and then both day and night, which may extend to the hands; and by numbness of the fingers, rendering all the finer acts impossible. Anæsthesia and analgesia may obtain, but often the disturbance of sensation is purely subjective. There is rarely any inco-ordination, and paresis is usually wanting. It may develop in the feet as well as in the hands. The affection is of indefinite duration; often it subsides quickly under treatment, but sometimes it baffles all attempts to arrest it.

Intermittent paralyses form the second class of peripheral neuroses which may be referred to peripheral neuritis. Cases of sudden paraplegia, lasting a few hours and passing off as rapidly as they appeared, have been observed too frequently to admit of any doubt. Westphal has described such a case, in which no cause could be found. Gibney has reported some cases, presumably due to malaria. Lastly, there are numerous cases of indefinite nervous symptoms—pain of various kinds, formication, odd sensations known as flashes of cold and heat, slight spasms or tremor, functional weakness with a sense of fatigue not reaching the grade of paresis, and many equally obscure manifestations of disturbed function in various parts of the body—which receive their best explanation on the theory of multiple neuritis.

The lecturer closed his remarks by referring to the various ætiological factors that produce closely allied pathological changes—such as some of the mineral poisons, infectious diseases, etc. A review of these, together with an analysis of the symptoms of peripheral neuritis, he said, would form the subject of the next lecture.

Original Communications.

A PLEA FOR
INTRA-UTERINE MEDICATION.

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NEW YORK.

UNTIL quite recently the introduction of medicinal substances into the non-puerperal uterine cavity for therapeutic purposes was universally practiced and unreservedly accepted as the proper means of treating certain diseases of the uterus. The various methods, in all their details, by which medicines can be most easily, safely, and efficiently applied to the endometrium, the indications for such treatment, and the dangers occasionally arising therefrom, are abundantly described in all our gynæcological text-books, and are familiar to all physicians interested in our specialty. It is not, therefore, my intention either to dwell on the methods employed or to discuss the efficacy of the various agents recommended by different authors. The object of this brief communication is to call attention to a growing tendency among some of our most prominent gynæcologists to abandon intra-uterine medication, so far as its employment *above* the internal os is concerned, and to condemn it as inefficient, unnecessary, and dangerous. *I wish it distinctly understood that my remarks here do not apply to the treatment of the cervical cavity, diseases of which all authorities still agree are practically incurable except by local measures.* Among those who have withdrawn their allegiance from intra-uterine medication are two of our countrymen whose names have for a quarter of a century been identified with many details of the treatment which they now substantially abandon. It is true, they object chiefly to the "routine" conventional employment of intra-uterine applications in every case of diseased endometrium; and herein, no doubt, their objection will be sustained. But when one of them (Thomas) says, "I find myself very rarely resorting at present to applications above the os internum uteri,"* and I see it reported that the other (Emmet) no longer makes intra-uterine applications, I can but feel that they are going too far, and that, unless they can offer us therapeutical substitutes for the discarded method which will accomplish, to say the least, more than the topical treatment, we can not afford to give up the latter in many cases where without it we should be powerless.

The most recent expression of Dr. Emmet's views on this subject I find in the proceedings of the last meeting of the British Medical Association at Brighton, as reported in the "Medical Record," September 11, 1886. There he is made to say as follows: "Endometritis and endocervicitis are rare, except in theory; the real trouble consists of a surrounding pelvic peritonitis. Once this latter is checked, and the circulation thus restored, all uterine discharges will cease. As regards the application of iodine to the interior of the womb, he rarely employs that treatment; as a matter of fact, he had reached a point in practice at which he seldom introduced an instrument into the uterus. His uterine sound had been broken for eighteen months, and he had never missed it. All that a sound taught might be made out with the fingers. The uterine mucous membrane would so readily absorb all substances presented to it that it was advisable to do all that was possible by way of the vaginal mucous membrane; moreover, the latter had the advantage of presenting a more extensive surface. By giving up applications to the interior of the uterus, and by largely discarding pessaries, Dr. Emmet had increased his success in treatment," etc.

Two striking facts will be conveyed to the majority of those who have followed Dr. Emmet's teachings for a number of years: 1. That he who ten years or more ago was an ardent advocate of intra-uterine medication, and whose skill in adapting pessaries to the different displacements was proverbial, has seen fit to renounce what appeared to be the settled convictions of a lifetime; and, 2, that to a more or less recognizable inflamed condition of the pelvic cellular tissue or peritonæum are now attributed by him the majority of disorders which we formerly were taught originated in the diseased organs themselves.

I do not think we are all, as yet, prepared to accept this latter view without reservation, however ready we may be to admit that the "routine" use of the uterine sound is reprehensible, and that bimanual palpation suffices, in the majority of cases, to diagnosticate the position of the uterus. As for the absorbent powers of the vaginal mucous membrane, they are known to be greatly inferior to those of the endometrium.

Of course, both Dr. Emmet and Dr. Thomas must have been led to thus radically change their views by what they deemed sufficient practical reasons. Still, I think that most of us will feel that the revulsion has been too great, too sweeping, and that to substantially give up the use of the sound and intra-uterine applications, and to deny the existence of chronic uterine catarrh except as a dependence of pelvic peritonitis or cellulitis, is scarcely prudent or in accordance with facts.

It seems to me that a mucous membrane remains the same in character wherever it is situated, and that we might as well attempt to cure chronic catarrh or hyperæmia of the mucous lining of the nares, throat, eyes, male urethra, or rectum, by general remedies alone, as to expect such a result in the endometrium. I need but ask what the laryngologists, otologists, and ophthalmologists could do without topical applications to their respective mucous membranes, and how a gleet could be cured without dilatation and cauterization of the urethra; and I fail to see why the same rule does not apply to the mucous membrane lining the uterine cavity.

I hope in this paper to demonstrate that there are certain cases in which intra-uterine medication is not only necessary, but indispensable to a permanent cure, and that it can be rendered as safe as any of the minor local measures. If I repeat to you familiar matters, I beg you will pardon me; I will endeavor to be as brief as possible. But it has seemed to me that the influence of high example might lead us to the opposite extreme, which must result in our discarding a system of treatment which has long stood the test of time, and has more good than bad points.

Now, as regards the first objection to intra-uterine medication—that it is inefficient—let us see at a glance whether it is well founded. The methods which have become popular are: Applications by cotton-wrapped applicators dipped in the fluid to be introduced; gelatin bougies containing the agent; solid sticks of the medicament, left to melt in the uterus, or probes coated with the agent, if it is a salt; ointments squeezed and powders blown into the uterus; finally, injections into the uterus.

Of these methods, the solid caustics and the injections are probably the most efficient, but also, especially the injections, the most dangerous. The insufflation of powders is not always feasible, as the tube easily becomes clogged, and besides is dangerous, as but few undilated uteri can bear the distension of their cavities by a sudden current of air. Ointments do not seem for catarrhal affections to be so efficient as dry or fluid applications. Thus there remain to us only the two methods first mentioned—the gelatin bougies and the cotton-wrapped applicators. The bougies are open to the same objection as the ointments; they act chiefly by absorption, not as caustics, and are therefore useful mainly in conditions calling for alterative and sorbefacient remedies, as in subinvolution and hyperplasia. Besides, if they are not particularly well prepared and become hard before use, they do not dissolve *in utero*, and produce severe uterine colic, or worse. Recently, I should say, I have procured most excellent gelatin bougies, containing five grains each of alum and iodoform, which remain soft and soluble for an indefinite period, from Mr. Robert E. Fleischer, apothecary, of Avenue C and Sixth Street, who makes a specialty of these gelatin preparations. With these I have had very good results in chronic endometritis, especially when attended with hæmorrhagic oozing.

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* "Diseases of Women," fifth ed., 1880, p. 298.

There remain to us, thus, only the cotton-wrapped applicators dipped in fluid, which may be said to be fairly safe, unless the fluid used is a powerful escharotic, such as nitric or chromic acid, or strong chloride-of-zinc solution. But these moist applications are, again, open to the objection that a large part of the fluid is rubbed off, and the surface of the moist cotton becomes coated with an albuminate before reaching the cavity of the uterus beyond the internal os; and undoubtedly this objection is valid. It would thus seem that all methods of application which are safe are inefficient, and those which will actually cure are dangerous. But this is only apparently the case, as I will presently show.

As regards the second objection to intra-uterine medication—its danger—there are too many instances of death after intra-uterine injections, too many cases of peritonitis and cellulitis after the introduction of solid caustics, not to omit a few similar cases after the use of applicators, to deny this assertion. Hence I, for my part, have long since entirely discarded injections into the non-puerperal, or certainly undilated, uterine cavity. After the use of cotton-wrapped applicators, I can remember but one instance of inflammatory reaction, and that was after the use of the sharp curette and nitric acid.

In the hands of some gynæcologists intra-uterine injections, however, seem devoid of danger. Thus, at the meeting of the American Gynæcological Society, held in Baltimore in 1879, Dr. William Goodell stated that he had seen no bad results from injecting four to eight drops of pure carbolic acid or iodized phenol, with a small amount of hydrate of chloral, into the uterus, and had found this treatment much more efficient than the usual applications, merely using the precaution to have the canal patulous. During the past summer I saw Martin in Berlin repeatedly scrape out the uterine cavity with Récamier's curette, and immediately inject a whole Braun's syringeful of pure liquor ferri subsulph., followed by copious irrigation with tepid water. The patients were under an anæsthetic. This practice was evidently a matter of routine, and no evil consequences were expected, or indeed ensued. In no case was it thought necessary to dilate the canal beyond the width found when the patient came under treatment. The injections were made in the dorsal position, the cervix being exposed by Simon's specula, which position I consider safer than the semiprone posture, as less likely to favor entrance of fluid into the Fallopian tubes.

To make the introduction of fluids into the uterus more efficient, without at the same time increasing the danger, I have for a number of years employed two methods, neither of which is original with me:

1. The applicator syringe, the fine nozzle of which is wrapped with cotton which is saturated with the medicinal fluid contained in the barrel after the nozzle has been passed into the uterine cavity. If the piston is pushed forward slowly, the cotton becomes gradually saturated and no free fluid escapes into the cavity, while as thorough an effect is achieved as if the fluid had been injected. I have done this many times, but must confess that I have seen several instances of shock and uterine colic after it, even requiring a hypodermic of morphine, the fluid used being, in one instance, nitric acid; in one, solution of nitrate of silver, ʒ j to ℥ j; in one, impure carbolic acid; in two, pure tincture of iodine; and in one, sol. ferri persulph. and glycerin, equal parts. In all these cases the ordinary cotton-wrapped applicators had previously been used without reaction. In consequence of these six warnings, I have now reduced the use of the applicator syringe to cases where acquaintance with the tolerance of the uterus renders such treatment reasonably safe, and where the uterine canal is widely patulous. In the latter condition I decidedly prefer, when I wish a very positive effect, the other method, namely—

2. To slip the thoroughly soaked cotton from the applicator and leave it in the uterine cavity for twenty-four or forty-eight hours. The cotton in this way acts as a very efficient tampon and hæmostatic if required, and the medicinal application is most decided and prolonged. From this method I have seen but good, and no bad, results. Both the uterine and vaginal tampons can be removed by the patient herself, on the next day, by means of strings attached to each. In no case has uterine colic followed this treatment.

In a recent quite original work, entitled "Practical Elements of Gynæcology," by Dr. A. Rheinstaedter, of Cologne (Hirschwald, Berlin, 1886), the author, who is not a professor, but merely a general practitioner who during a twenty-five years' practice has gradually become a specialist, states that, by the weekly application on a cotton-wrapped aluminium applicator of a fifty-per-cent. solution of chloride of zinc, he has never failed to cure within from two to three months every case of uterine catarrh depending on chronic endometritis, without the use of any other treatment, and that never has contraction of the canal ensued. The applications are always made at the patient's residence, and she is kept in bed until the next day, and, of course, all ordinary reasonable precautions are observed. Only once, in a dispensary patient, who took a two-hours' walk home after the treatment, has he witnessed a slight attack of cellulitis.

I do not desire to weary you with an enumeration of the views and peculiar methods of different authors. I merely wish to emphasize the fact that there are various precautions which render the intra-uterine application of certain agents reasonably safe, while not destroying their efficiency. Thus, applications of iodine, carbolic acid, nitric acid, or solution of chloride of zinc, may be made without special risk if the uterine canal is well dilated, and, in the case of the stronger agents, the patient is kept in bed for one or two days. If these conditions are observed, the cotton-wrapped applicator or straight stick, the applicator syringe, or the medicated uterine tampon, may be used with equal impunity. Only I would except the use of nitric acid or chloride of zinc by the latter method, for fear of producing too deep an effect.

While thus admitting the inefficiency of some of the methods of intra-uterine medication and the danger of others, let us see whether the opponents of this treatment have compensatory substitutes to offer. Starting from the idea that a uterine catarrh or hæmorrhage is but symptomatic, and depends on some pathological condition of the general system or of the pelvic organs not inherent to the mucous membrane of the uterus itself, they very properly advise the cure of that condition—the cause of the intra-uterine disease. Such conditions are: a vitiated state of the general health, displacement, subinvolution, or hyperplasia of the uterus, laceration of the cervix, fungous degeneration of the uterine mucous membrane, general pelvic hyperæmia, etc. Undoubtedly, the proper plan of treatment in such cases is to remove the cause of the endometritis, build up the general health, overcome constipation by exercise, diet, and proper laxatives, rectify the displacement, stimulate the uterus to involution and absorption of its adventitious elements, sew up the laceration, scrape off the vegetations, etc. But, granted that all this has been done and the catarrh is cured in the cases in which it is really caused by the conditions mentioned, I maintain that there still remain numerous cases of chronic endometritis—due to cold, to exposure during menstruation, to sexual abuse, to venereal infection, to subinvolution chiefly after abortion, to the extension upward of a cervical catarrh, etc.—in which the removal of the original exciting cause fails to cure the disease; and, further, I fail to see how we can benefit or cure the numerous cases of chronic subinvolution and hyperplasia which resist every general and local remedy, unless we resort to methodical and prolonged intra-uterine medication.

Dr. Thomas says (*op. cit.*, p. 307) that, if the removal of the causes mentioned fails to effect improvement, the application of the dull-wire curette over the whole surface will produce "an altered state in the entire endometrial membrane, break distended blood-vessels, and often accomplish a great deal for the relief of the disease."

Fritsch * does not approve of this treatment, for he says most pointedly: "In cases of simple supersecretion the therapeutic measures mentioned" (applications of tincture of iodine after removing the mucus) "achieve much better results than the recently recommended heroic plan of deep cauterization and curetting of the uterus. The uterus should not be considered a fistulous track, slow to heal, and covered with fine granulations. A partial destruction of the diseased mucosa merely has the therapeutic value of a local depletion of blood. If the action of the mucous membrane is to be altered, or its secretion modified, it is useless to scrape away particles of it. It is much more important to remove the secretion, and then to paint the whole endometrium with an alterative agent." I do not agree with Fritsch in these remarks, for I firmly believe that the curette often does what Dr. Thomas alleges for it, and I have many times employed it for this purpose when I failed to find vegetations. But, if the repeated application of the curette does not cure the endometritis, what then? Or if, after removal of vegetations, the menorrhagia still continues, or if there were no vegetations to account for the profuse menstruation which still persists? That such cases are not uncommon will be admitted. And my object is precisely to insist upon the necessity of continuing intra-uterine medication, with proper precautions, in the cases where the very proper and rational removal of the presumable causes of the uterine disease has failed to achieve a cure. From my experience I should recommend intra-uterine medication in the following conditions:

1. *Chronic Endometritis in Nulliparæ.*—I have grown to believe this so much of a local disease that I do not believe it curable by other than topical applications. Of course, I except the existence of one of the causes already mentioned. The most intractable cases have been those of virgins, and young, obese women, in whom I have found the severe applications—such as solution of chloride of zinc, ʒ j to ʒ ij to ℥ j; or of nitrate of silver, same strength—the most efficient. Nitric acid I have never employed above the os internum in a nullipara, and chromic acid I believe equally unsafe, although I think the latter remedy most excellent in chronic cervical catarrh. I recollect one case of a young married lady, sterile after four years of married life, in whom I could find no cause for the sterility but a chronic endometritis; after three applications of impure carbolic acid by the cotton-wrapped probe, I went into the country on my vacation. On my return, two months later, she told me that she had missed a period, and pregnancy was soon ascertained to have taken place, which went to a normal conclusion. I think the cleansing of the uterine canal of mucus and pus had more to do with the conception in this case than the mild cauterization.

2. *Villous Endometritis, to effect a Permanent Cure after Removal of the Vegetations by the Curette.*—After scraping out the uterus for menorrhagia caused by villous degeneration, I invariably plug the uterus at once with cotton soaked in pure tincture of iodine or in iodized phenol, and continue the applications of tincture of iodine, generally with the applicator, twice weekly for several months, then once a week, once in two weeks, and, finally, only once a month a few days before a period, until the menstrual flow is and remains perfectly normal in amount. I know that I have thus secured a permanent cure, which I feel sure I should have failed to do in many of the cases if I had omitted this after-treatment. I have thus cured patients who had been curetted by other gynæcologists at home and abroad, without any or sufficient after-treatment, and had consequently continued to flow until systematic prolonged intra-uterine medication was resorted to.

3. *Chronic Subinvolution and Hyperplasia of the Uterus.*—I know that the prolonged use of ergot and hot douches will often result in restoring a subinvoluted uterus in the earlier stages of the disease to its normal condition, espe-

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* "Diseases of Women," 1884, p. 200.

cially if the faradaic or the interrupted galvanic current is also used. But I have never been able to convince myself that a uterus in a state of chronic subinvolution or of actual hyperplasia was much benefited by any measures, local or general, not applied directly to its interior. I certainly have seen more benefit follow frequent and prolonged intra-uterine applications of tincture of iodine and iodized phenol than any other measure. And in these cases the use of the ordinary cotton-wrapped applicator has answered as well as other methods, the mere irritation of the passage of the applicator seeming to play some part in stimulating the organ.

4. *Metrorrhagia from a Flabby or Subinvoluted Uterus.*—In many such cases, after the usual local and general hæmostatics failed, I have succeeded in checking the hæmorrhage, when its persistence had become alarming, by plugging the uterine cavity with cotton saturated with compound tincture of iodine or with sol. ferri persulph. and glycerin, equal parts. In one case of hæmorrhage after suspected early miscarriage, where the patient could scarcely have borne a repetition of the flow, I was obliged thus to plug the uterus daily for over a week before it contracted permanently.

I am aware that this example does not exactly belong under the head of "routine" applications, but I think it worth while to refer to it.

In conclusion, I must again offer as an excuse for this communication, which may appear entirely uncalled for to those practitioners who believe in and habitually use intra-uterine medication, my apprehension lest by the force of distinguished teaching we go from one extreme to the other, and, from undoubtedly exaggerating the value of intra-uterine medication, abandon it entirely. I am sure it has its decided value, and, *in well-selected cases* and with reasonable precautions, will prove both efficient and safe. I trust that this paper may elicit the views of the members of the profession, both as to the value of the treatment in general and as to the respective worth and safety of the various agents, in order that we may see whether any decided changes of opinion have recently taken place. My own purpose has been merely to lead up to the subject, not in any way to exhaust either its past or present history or its future possibilities.

A CASE OF
OPTIC NEURITIS, WITH BRAIN SYMPTOMS.
RECOVERY; WITH REMARKS.

By A. FRIEDENWALD, M. D.,

PROFESSOR OF DISEASES OF THE EYE AND EAR, COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE.

Miss S. M., aged fourteen years, well developed, having menstruated regularly since she was eleven years old, and having enjoyed undisturbed health, first consulted me in October, 1884, for impaired vision of her right eye, the vision of the left having remained intact. On examination, I found the impairment of vision of her right eye to be very great, viz., $\frac{3}{200}$; field of vision good. The ophthalmoscope revealed a typical choked disc. The papilla was swollen, looked woolly, the retinal arteries were somewhat smaller than normal, the retinal veins were dilated and tortuous. In the left eye, although the vision remained good, the fundus was hyperæmic, and the papilla could hardly be distinguished from the surrounding fundus, its outlines having been lost, while the retinal veins were also decidedly dilated and tortuous.

Finding this condition, I was at once disposed to regard it with considerable alarm, from the fact that in these cases we have generally not only a formidable eye trouble to treat, but also because these conditions are so often due to intra-cranial disease. The apprehension entertained on this account seemed to have been especially well grounded when, on further inquiry, it was found that the patient had suffered from quite violent headaches and occasional vertigo. There was no history of syphilis, either hereditary or acquired. Both parents are in the enjoyment of good health; they have eight other children, who are all in good health.

The most frequent cause in the ætiology of optic neuritis of the form just described experience has shown to be cerebral tumors. It has been estimated that fully 80 per cent. of all cases of optic neuritis are due to intra-cranial diseases, and of these, cerebral tumors are by far the most frequent. Among other intra-cranial diseases which may give rise to this form of eye affection may be mentioned hydatid disease, softening following vascular obstruction, meningitis, and abscess. Taking these into consideration, it is not to be wondered at that I watched the future course of my case with very great concern, and gave a rather gloomy prognosis at the outset.

It is true that syphilis contributes a share in inducing this form of disease, and that the prognosis in such cases is much more favorable than in those due to other intra-cranial affections; but, although the idea of such an origin in the case under consideration, with the quite respectable social position of the patient, would have been horrifying, in view of the very sad outlook, such a discovery, at least to a degree, would have been welcome.

Leber* speaks of the general disturbances accompanying the climacteric period as occasionally being complicated with optic neuritis, and adds that, when that is the case, we can look upon the eye affection rather hopefully. There was no comfort to be drawn from this lesson so far as my patient was concerned.

According to Juler,† "optic neuritis is occasionally met with in young girls of from fifteen to twenty, and the cause usually assigned is some irregularity of the menstrual function. Often, however, careful inquiry fails to elicit any history of this. The neuritis is generally preceded by severe headaches, and the prognosis as regards sight is extremely unfavorable." Our patient, by her age and from the possibility that she might have been suffering from irregularity of the menstrual function, of which, on careful inquiry, I failed to elicit the history, was entitled to be considered among this class, from which fact, however, I could not gain any encouragement for her.

Having said sufficient in regard to the prognosis in assuming the care of this case, I shall now proceed to relate its further progress.

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* Graefe and Saemisch, "Handbuch der gesammten Augenheilkunde," pp. 818, 820, vol. v.

† "Hand-book of Ophthalmic Science and Practice," p. 197, Am. ed.

I prescribed the iodide of potassium in ten-grain doses three times daily, and, in addition thereto, directed that a teaspoonful of the fluid extract of jaborandi be taken every other night. During the first week not only was there no improvement, but the little sight she had had in the affected eye on my first examination she had also been deprived of. During the second and third weeks there was no observable change in any of her previous symptoms. After this time a gradual improvement was noticed. At first she could again count fingers; in a week more she could read some of the larger letters of Snellen's test-types, after which time a gradual improvement took place, so that, in about three months after the treatment was begun, she could read very fine print (Jaeger No. 1). Although the sight improved so satisfactorily, she occasionally had attacks of vertigo, and often suffered from headaches. These symptoms too, however, have, since March, 1885, entirely disappeared. I have seen the patient at long intervals up to the present time, and I have the satisfaction to report that her relief has been both complete and permanent.

In reporting the favorable issue of this case it is not my intention to make the impression of having cured a very grave form of brain disease—an intra-cranial tumor perhaps. On the contrary, I take this occasion, and bring my case in evidence, together with others to which I shall presently refer, to call into question the accuracy of the conclusion which has been arrived at in estimating the percentage of grave brain lesions to which optic neuritis is attributable. Before showing how, according to my opinion, the assumption that at least 80 per cent.* of all cases of optic neuritis are induced by the grave central lesions referred to rests upon an error, I will summon some additional evidence of the kind represented by the case just reported. I quote from Wells †:

> "But we sometimes meet with cases of optic neuritis in which it is quite impossible to detect any cause or any impairment of health, except, perhaps, some derangement of the uterine functions, *e. g.*, insufficiency of the catamenia. I have seen several instances of this kind in young and delicate females who otherwise enjoyed perfect health. Such cases recover completely if they are seen at the outset of the disease, and are actively and efficiently treated."

I must, in passing, direct attention to the favorable prognosis in these cases given by Wells, as contrasted to that of Juler, quoted above, when he says: "As regards sight, it is extremely unfavorable." Every oculist must have met with cases presenting all the features of choked disc in women at the climacteric period in which full recovery has been the result.

Simi ‡ reports a case of almost instantaneous blindness from choked disc in a person to whom a brisk cathartic had been administered. Slight improvement followed after a few days, and almost complete recovery of sight after three months, although a disturbance in the color perception persisted, attributed to reflex action due to abdominal irritation upon the sympathetic nerve.

Mooren # professes to have relieved a case of double optic neuritis by means of a pessary which corrected the retroflexion of the uterus from which the patient was suffering. The relief followed from the moment the pessary was applied, and continued undisturbed for several years, when she began to suffer from headaches on one side of her head, and double-sided mydriasis. On examination, it was found that the retroflexion had returned.

Leber,* in recounting the various causes of optic neuritis, mentions rheumatism and sudden exposure to cold as capable of inducing this disease.

A very interesting case † is found in Brudenel Carter's work on the diseases of the eye, showing that typical choked discs may exist where there is no intra-cranial disease, and this fact is ascertained not by the process of guess-work arrived at from the patient's recovery, but by the much more conclusive method of an autopsy, which was made possible by the death of the patient from intercurrent cause. A little boy in St. George's Hospital in 1872 had choked discs of the most typical character. Dr. Hughlings Jackson, Dr. Noyes, of New York, and several members of the International Ophthalmological Congress, which was then assembled in London, saw the patient, and entertained no doubt that he was the subject of some form of brain disease. The boy died of pleurisy supervening upon kidney disease, and no trace of mischief in his brain could be discovered by the most careful examination.

There can be no doubt that of the cases of optic neuritis that end fatally, a very large number are due to intra-cranial diseases, and that, among these, tumors are of the most frequent occurrence. But it must be obvious that any deduction as to the percentage of optic neuritis complicated with and due to intra-cranial disease, as based upon such autopsies, must necessarily be inaccurate; for, probably, from the cases referred to above, quite a number, whether or not ending unfavorably as regards the sight, do not necessarily affect the general health of the patient, and these have not been taken into account. I am impressed that the number of cases of optic neuritis uncomplicated with brain disease is much too large to be ignored in these calculations. I direct attention especially to this point, for, while a case of double choked disc is to be regarded with grave concern, it need not necessarily be viewed as hopeless, either as regards the restoration of sight or as to the life of the patient. Of course, there are other symptoms which accompany these cases which make it somewhat certain that the neuritis depends upon grave intra-cranial alterations—viz., persistent vomiting, paralysis, and convulsions. But it must be borne in mind that these more serious and rather unmistakable symptoms do not always manifest themselves at the outset of the disease, or at the period when the optic-nerve trouble may already have been well developed.

This point is well illustrated in a case reported by Nieden ‡ of fibro-sarcoma of the right cerebral hemisphere. In this case the ophthalmoscope revealed well-marked choked disc in the right eye, less marked in the left, in the

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* Mauthner, quoted by Juler.

† "Treatise on the Diseases of the Eye," p. 506, 4th Am. edition.

‡ "Boll. d. ocul.," Sept. 1, 1884; "Rec. d'ophthal.," Oct., 1884, p. 603.

Mooren, "Disturbances of Vision and Uterine Diseases," "Arch. of Ophth.," vol. xi, p. 298.

* Graefe and Saemisch, "Handbuch der gesammten Augenheilkunde," vol. v, p. 814.

† Carter, "Practical Treatise on Diseases of the Eye," p. 367.

‡ "Archives of Ophthalmology," vol. xii, p. 366.

early part of March, 1878, although the cerebral symptoms were restricted to periodic headaches (some accompanied by vomiting), limited to the occipital region, recurring every two or three weeks, the patient feeling well during the intervals. He had been subject to these attacks since November, 1877. It was not till the latter part of April, when total amaurosis was established, that the periodic headaches, as just described, were accompanied by cloudiness of mind and impeded articulation, which, however, only continued during these attacks. Epileptoid attacks first set in in January, 1879. But even when grave cerebral symptoms accompany the neuritis we can not be absolutely certain that these symptoms depend upon coarse brain affections, although the prognosis, should the brain be free from demonstrable disease under these circumstances, is almost equally hopeless. Mauthner* gives prominence to this fact by quoting the cases of Hughlings Jackson, 1876, and Noyes, 1874. Jackson's case was that of a woman, thirty-four years old, who had suffered from headaches through her whole life. There followed an attack of vertigo, accompanied with a loss of consciousness, increased headache, vomiting, and double neuritis. There were no paralytic symptoms. Death was caused by asphyxia. In this case no cerebral tumor nor any observable change in the brain, save that of a recent congestion, could be found. Even with the strong conviction of cerebral disease in this case, the cause was sought for in this direction in vain.

Noyes's case was even more remarkable in this respect. The symptoms characterizing this case were a double optic neuritis ending in atrophy, violent headaches, paralysis of the various cerebral nerves, and unsteady gait, and still, with all this, the autopsy furnished a completely negative result.

When we contemplate the variety of conditions under which the choked disc makes its appearance, a true conception of its pathogeny becomes extremely difficult. For, while the presence of a tumor and the optic-nerve sheath distended with subarachnoidal fluid will testify strongly for the mechanical theory of Manz, and also for the modifications of that theory formulated by Schmidt, Leber, and others, in which the fluid is followed from the sheath space into the lymphatics of the papilla, and there charged with causing pressure and inflammation on the one hand, and with being the carrier of septic material on the other, yet we know that the typical choked disc may exist when neither of these explanations is available, and where we have to fall back on the theory of a reflex influence on the vaso-motor nerves. The question then presents itself to us, since we can explain the choked disc fully on the reflex theory, whether or not, in addition to distension of the optic-nerve sheath, the reflex influence is also at work, or whether the choked disc is a condition which can be induced by the several influences acting independently; or, finally, whether, in ascribing an optic neuritis—in the absence of brain disease that may affect the nerve either through the subarachnoidal fluid or by means of an inflammation reaching it through a meningitis—to reflex vaso-motor disturbances, we are not grouping together, under one convenient name, a number of influences of which we are entirely ignorant.

It was not the object of this paper, however, to enter upon a discussion of the pathogeny of optic neuritis, and I will therefore conclude with a summary of the points which I have sought to present in this paper:

1. The generally accepted percentage of cases of optic neuritis due to intra-cranial disease is much too large, owing to conclusions arrived at from autopsies which have excluded almost entirely the cases which have their origin in other causes, and which terminate in recovery.

2. Optic neuritis being in many cases due to remediable constitutional disturbances, the prognosis, although worthy of grave concern, need not necessarily be hopeless, and indeed, when we can be certain as to the absence of brain disease, it may be regarded as relatively favorable.

3. There is no means by which we can ascertain with absolute certainty in any special case, in the absence of brain symptoms, whether the brain is really free from disease, for, while the neuritis may be already fully established, these symptoms may yet be dormant, and may make their appearance at a later stage.

4. Moderate brain symptoms may even accompany cases which will terminate favorably in every respect.

5. Exceptionally, optic neuritis occurs in cases attended by brain symptoms of the most outspoken character in which the brain has remained free from any observable change.

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* "Gehirn und Auge," p. 570.

CLINICAL OBSERVATIONS OF AN ENDEMIC OF BERI-BERI AMONG CHINESE COOLIES AT THE SANDWICH ISLANDS.*

By H. N. VINEBERG, M. D.,
ASSISTANT PHYSICIAN TO THE NEW YORK HOSPITAL (OUT-DOOR DEPARTMENT); CLASS, DISEASES OF WOMEN.

Gentlemen: Your chairman, hearing of my having seen a number of cases of beri-beri while residing for a year (in 1881) at the Sandwich Islands, on account of delicate health, has courteously invited me to present a report of my observations on that disease before this section of the Academy of Medicine. Owing to the unfavorable conditions in which I was placed for the scientific study of disease, I fear that my observations will seem crude and indefinite. Several thousands of miles from a medical center or medical library, with only monthly communication with the outside world, and without a microscope or other apparatus for scientific investigation, I was confronted with what to me was an entirely novel disease. My means of communication with my patients was through a Chinese cook, who acted as interpreter and who spoke and understood English but imperfectly. Moreover, the managers of the plantations did not encourage what they considered as "doctors' experiments" on their employees. Notwithstanding all this, I studied the strange affection as closely as I could, and watched its progress with interest and attention.

I shall confine my remarks to-night chiefly to the more prominent features of the endemic I witnessed, leaving myself free to write more extensively on the subject later.

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* Read before the Section in Theory and Practice of Medicine of the New York Academy of Medicine, January 18, 1887.

For our purpose to-night we will name the three sugar plantations of which I had medical charge plantations No. 1, No. 2, and No. 3.

The first case of what I afterward knew to be beri-beri came under my notice at plantation No. 2, in a Chinaman who had been there only a short time. He complained of weakness and vague pains in both legs, and said he was unable to work. There were no objective signs present. The muscles did not appear atrophied, and tactile sensibility was unimpaired. When the muscles of the legs were firmly grasped by the hand, the man cried out with pain, but the muscles felt firm and normal to the touch.

A physical examination of the organs did not reveal anything, and the functions of the economy seemed to be carried on normally. I hesitated whether to pronounce him a malingerer or the subject of chronic myalgia. Tonics, rest, and good food failed to effect any change in his condition.

My next experience with the disease was on plantation No. 1, where several Chinamen one day while at labor suddenly dropped down in the field, saying they had lost power in the legs. The onset was unattended with vomiting, chills, or other phenomena. Within a week fully fifteen out of the sixty Chinese coolies on the plantation were stricken down with the malady.

As typical of these cases, I do not think I can do better than quote from a short description that I sent at the time to the editor of the "Canada Medical and Surgical Journal," of Montreal, which was published in the issue of that journal for November, 1881:

> "The plantation overseer notices a Chinaman suddenly drop in the field, and, looking upon him as a 'shirker,' tells him to go to work, enforcing his command with a kick. The coolie points to his lower extremities, and by gestures endeavors to make his taskmaster understand that it is they who are at fault. A medical examination, I am bound to confess, does not throw much more light on the subject, and, from the nature of the circumstances, is very unsatisfactory.
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> "The patient walks with his legs wide apart, and not unlike a tabetic when paralysis is beginning to become manifest. The muscles feel firm to the touch, they do not appear atrophied, and, on being tightly grasped by the hand, the patient calls out with pain. Tactile sensibility is not impaired, and the reflexes are normal. Pain is referred at first to the region of the knees, and afterward vaguely to the thighs and legs, but not infrequently to the calves only. The patient endeavors to indicate some sensation he experiences by digging the limbs with the index-fingers partially closed, and which I interpret as pricking. No pain whatever is referred to the spine, and hard knocks with the knuckles over the spines of the vertebræ elicit no cry of pain. Power over the sphincters of the rectum and bladder is retained, and is lost only in fatal cases, a few days before death. The bowels are usually costive, the appetite is good, and the tongue may be clean or slightly furred. The pulse is frequent (90–110 in the minute) and is rather small and compressible. The urine is of normal color, free of sediment, and contains no albumin or sugar. A physical examination of the heart, lungs, and liver is negative. My stock of clinical thermometers are either broken or unreliable, but, judging by the feel of the hand, there does not appear to be any elevation of bodily heat excepting in a few fatal cases a short time before the lethal termination."

Muttering delirium occurred in some of the cases a few days preceding death; apart from this there were no mental disturbances in any of the cases excepting in the one first described. This patient became the victim of "paranœa" and was subject to delusions of persecution, so that he had to be transferred to an insane asylum.

The following are some of the variations that I observed from the foregoing description: The disease did not always set in so suddenly. In many cases it was preceded by prodromal pains in the legs, and slight gastric disturbances for one or two days. In not a few cases the paralysis of the lower extremities was complete at the beginning. These patients by no means presented the gloomiest outlook, for many of them were among the first to recover. Œdema of the legs was present in not more than five per cent. of the cases, and I can not recall one case in which the œdema became general. In all the cases attended with œdema a valvular affection—aortic or mitral—obtained, but it seemed to me to have had an existence prior to the paralysis. Hæmorrhages, swollen gums, or other symptoms of scurvy I did not observe in a single instance.

During the first two months following the appearance of the disease, about ten more Chinese coolies on the plantation became its victims. Some weeks after the outbreak on plantation No. 1, about one third of the number of the Chinamen employed on plantation No. 2 were stricken down in a similar manner. It was not until some months afterward that any cases were observed on plantation No. 3, where the endemic, when it came on, exhibited similar features to those of the two other plantations. Of the 350 Chinese coolies employed on the three plantations, fully 100 were attacked.

The cases ran three different courses. Fully fifty per cent. ended in recovery, about thirty per cent. proved fatal, and the remainder passed into a chronic state. Recovery took place at a variable period, but most often in from three to four weeks, and was liable to be interrupted by several relapses of from three to four days' duration. In the fatal cases death occurred in from three to four weeks after the onset of the disease, and seemed to be due to a rather rapid extension of the paralysis, which finally involved the muscles of respiration, the patient dying asphyxiated. The duration of the chronic cases I am unable to state from personal observation, as the patients appeared to be in about the same state when I left the district, five months after the appearance of the endemic. These patients ate and slept well, the muscles did not appear to have undergone any atrophy, and, beyond a weakness in the inferior extremities, they exhibited no evidences of ill-health.

In order to make clear the position I take in reference to the causation of the endemic of beri-beri that came under my notice, it may be well to state a few geographical and other features of the district in which the endemic occurred. The district extended about thirty miles in length, and was situated on the windward side of the island of Hawaii, which lies in latitude 20° north and longitude 162° west. The trade-winds extend as far north as this latitude for nine months of the year. During the remaining three months, which are the winter months, hot and oppressive winds, continuing for two or three weeks at a time, are prevalent. Attacks of influenza are common at this season of the year; otherwise the climate is healthy. The thermometer seldom registers below 60° or above 85° F. the whole year round. It was during the summer months that the endemic made its appearance.

The plantations comprised the fertile areas in the district; they were about eight to ten miles apart and lay from five hundred to twelve hundred feet above the sea-level. The soil was sandy for the most part, with a mixture of finely broken up volcanic rock. Marshes or low wet grounds on the plantations or in their vicinity were unknown.

The Chinese coolies on the plantations were in the prime of life, ranging from twenty to forty years of age, and came from different cantons. The disease seemed to show no predilection for the natives of any particular canton. There were only ten women among them; they followed the same occupation as the men, and only one of them became the subject of the disease. In my opinion, this endemic of kak-ke or beri-beri was due to the effect of improper food upon a constitution deteriorated by overcrowding, masturbation, and other perverted sexual habits. Opium-smoking could not have played any important rôle in the causation, as the laws of the islands imposed a heavy fine on the act, and only a few dare-devils ran the risk of the penalty. The overcrowding, of course, has reference to the sleeping apartments only, which consisted of frame barracks eighty feet long and fourteen feet wide, with two rows of shelves running the whole length of the building on either side. Upon these shelves fifty or more Chinamen stretched out their limbs in repose for the night. During the day they labored in the sugar-cane fields, and were, of course, in the open air.

Time and the province of this paper will not permit of my going fully into the strong chain of evidence upon which I have based my theory of causation. Suffice it here to say that the improper food referred to consisted principally of pea-nut oil, tainted fish, sausages, and pork in an advanced stage of decomposition. The reason why the disease did not appear earlier on plantation No. 3 was, in my mind, the circumstance that the men were fed with rice and fresh meat, and with vegetables occasionally. It was only after the system had been instituted of giving the men the value of their rations in money and allowing them to buy and eat what they chose, that the disease made its appearance.

Apropos of this question, allow me to make a few quotations from recent researches on foods and the compounds they form in the body. Lauder Brunton compares the lassitude and feeling of heaviness coming on after a full meal in dyspeptics to the symptoms produced by curare. ("Disorders of Digestion," p. 43.)

Bocci extracted an alkaloid from human urine possessing exactly the same action as curare. ("Arch. pour la science méd.," vol. vi, No. 22, 1883.)

The alkaloid obtained by Brieger in the product of digestion of fibrin with gastric juice, to which he has given the name of peptotoxin, though not identical with the alkaloid obtained by Bocci chemically, yet appears to be identical with it in action, both acting like curare in paralyzing the peripheral terminations of the motor nerves.

I will briefly state my reasons for excluding contagion and malarial poison as ætiological factors. There were over six hundred other laborers besides the Chinese coolies on the plantations. These consisted of natives, Mexicans, Portuguese, and, I may say, persons of almost every nationality under the sun. They were almost in constant contact with the affected coolies, especially the natives, and not a single case of beri-beri was observed among them.

During my whole term of a year I did not meet with a single case of intermittent fever, or of any affection which is recognized to be due to paludism. Other fevers, such as typhoid or yellow, were equally unknown. The treatment that seemed most efficacious consisted of rest, good nourishing food into which fresh meat and vegetables entered, and more commodious and comfortable sleeping apartments.

At the Honolulu Hospital, where, in addition to the foregoing, galvanic and faradaic electricity was applied, a larger percentage of successful cases, or cases of recovery, occurred than stated in my report. One of the physicians in attendance afterward told me that they had not had one fatal case in the hospital, doubtless due to the fact that the more acute and severe cases could not be transferred to the hospital, which almost always necessitated a sea voyage of one or two days. There were several Chinese physicians in the district, and their abominable mixtures and free acupunctures of the sites of pain did not seem to be any more successful, if as much so, as my plan of treatment based on general principles.

GUMMATOUS INFILTRATION OF THE TONGUE.*

By URBAN G. HITCHCOCK, M. D.

A DISEASE having its precise seat in the areolar tissue, and presumably likely to occur wherever such tissue is found, gummy infiltration is particularly prone to attack certain organs, as the brain, the nerves, the muscular tissue, the tongue, "which is as hard, to use a common expression, as if stuffed with peach-stones"; † and, according to other authority,‡ peculiar liability to the deposit under consideration is shown by the skin, iris, pharynx, soft palate, and tongue, the vascularity and constant activity of the latter being held accountable in this regard.

Of all these regions, the nerves and the tongue have, in the writer's experience, been those the most rarely affected. However, four cases of this disease in the tongue having recently come under observation, they were considered of sufficient importance to form the subject of a report, illustrating, as they do very aptly, the variation in symptoms dependent upon the particular part of the tongue occupied by the growth, and showing, moreover, the marked amenability to treatment which characterizes this affection.

The well-recognized tendency of this form of infiltration to undergo still further degeneration, and by its breaking down to escape finally by the process of ulceration, thus forming deep ulcers and cavities, indicates forcibly the necessity of its early discovery, in order that it may be promptly checked and the patient be spared the permanent deformity and discomfort resulting from subsequent contraction of the deep and irregular cicatrices and fissures. That these tumors may easily escape detection, especially when situated in the more anterior parts of the tongue, seems probable from the fact of their causing exceedingly slight inconvenience when located in these regions; and the relative frequency with which deep fissures are here observed would seem to corroborate this view, for such fissures, as distinguished from simple wrinkles of the tongue, are conceded to be exclusively the result of gummatous deposit, and, like it, pathognomonic of profound constitutional infection.

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* Read before the American Laryngological Association at its eighth annual congress.

† Cullerier and Bumstead.

‡ W. Fairlie Clarke.

In the first case, to be presently narrated, there existed on the right side of the anterior third of the tongue a very considerable gummy deposit, of which the patient was wholly unaware.

This was in the person of a man, L. M., forty-five years of age, who had contracted his disease twenty-four years ago, and, when first seen by me, had also a shallow tertiary ulceration on the posterior wall of the pharynx. Both of the lesions yielded readily upon the conjoined use of iodide of potassium and biniodide of mercury.

As exemplifying the occasional difficulty of distinguishing by the mere appearance of the lesion whether it is gummatous or cancerous, and as exhibiting by far the most extensive involvement of tissue, there is here adduced the case of a man, C. J. M., aged thirty-nine years, from whom no specific history could be obtained other than that of the development of the particular affection for which he sought relief. Its general characteristics, however, and especially its behavior under treatment, afford preponderating evidence that its character is the same as that of the other cases here reported, in all of which the history was confirmatory of their apparent nature.

In the present instance the patient had, in the latter part of December, 1885, commenced to be greatly distressed by a painful and tender swelling at the base of the tongue, which necessarily interfered greatly with deglutition, but did not affect him so severely as to prevent his attending to his duties, which were those of a workman on iron boilers. According to his recollection, the symptoms had lasted "about a week," when, at a moment of particular effort in striking a rivet, he felt something give way in his throat, which immediately became filled with matter. The bursting appeared to him to have been on the left side, and was not followed by entire relief, for, at the time he was first seen, dysphagia had been continuous and had prevented his taking sufficient food to maintain his full degree of nutrition. Especially in the last few weeks had he lost flesh. Upon examination by simple inspection of the mouth, and before a history had been obtained, a rather ominous appearance was presented. A very decided and angry swelling was discovered at the farthest visible portion of the tongue, mostly on the right side, and suggestive of malignant trouble beyond. Further examination, by aid of the faucial mirror, did not serve to improve the already grave aspect of the case; for in that region of the tongue thus exposed were revealed on the right side a jagged fissure surrounded by irregular and exuberant tumefaction, and at the corresponding point on the other side an equally profuse mass of flabby, apparently adenoid formation, in which no distinct fissure was evident. Examination with a probe determined the existence of an extensive cavity in the depths of each of these locations, from which, it was immediately surmised, gummatous material had escaped at an early period. During the month which has elapsed since this case was first seen satisfactory improvement at first was promptly experienced and has been uninterruptedly continued under the use of the iodides of mercury and potassium. The cavities and granulations still persist, but in such reduced degree that they give the patient no indication of their presence.

In the opinion of Hutchinson, cancer may come from syphilitic ulceration of the tongue; and Fairlie Clarke specifies the ways in which cancer may so arise, namely, (1) by the syphilitic ulcer becoming gradually malignant, cancer arising, as it were, from the dregs of the disease, and (2) the scar left after the healing of the syphilitic sore seeming to form the starting-point of epithelioma. Clarke, furthermore, mentions, as being of diagnostic importance, the failure of cancer to improve under treatment.

In the two cases which follow, and which complete my present list, the patients were kindly referred to me by Dr. Delavan and Dr. C. H. Knight:

Case III.—Mrs. B., aged twenty-eight, married. The notes record distinctly the communication of the disease from her husband seven years ago, and the subsequent invasion of secondary symptoms. She now has a tertiary eruption on the left mamma and on the thighs. For the last year she has felt that her throat was not quite right, but she was not seriously disturbed until about two months ago, when there appeared on the right side, at the posterior part of the middle third of the tongue, what is now evidently a gummy tumor of the size of a small filbert, which has caused constant annoyance, especially in swallowing. Amelioration of the symptoms has taken place during the last two weeks under the same treatment as that already mentioned.

Case IV.—R. T., aged twenty-five, contracted the disease three years ago, and its development has been mainly in the mouth (mucous patches), although there have also been rheumatism and falling of the hair. At present the only manifestation is what appears to be a gummy tumor of the left side of the tongue in its posterior third. This is of about the size of a large pea, is very sensitive to pressure, and causes marked dysphagia. The symptoms were first noticed four days ago, and have steadily increased in severity.

In reviewing these cases, it is to be remarked that in no one of them was the fibrous septum of the tongue the exclusive seat of the deposit, which has been declared to select this tissue for its development, and that in three of the cases the deposit did not at all approach this structure. In no instance was there neighboring glandular enlargement. As might, perhaps, be anticipated, the degree of dysphagia produced by the growths was in direct proportion to the proximity of the deposit to the base of the tongue. Whether this is generally true does not appear from any works consulted. As far as these cases go, they bear out the assumption which has been made to the effect that the soft palate and tongue are never simultaneously involved in ulceration.

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TABETIC JOINT DISEASE.

Ever since Charcot, in 1868, drew attention to the occasional occurrence of a peculiar joint affection in tabetic patients, to which he gave the name of *arthropathie des ataxiques*, joint diseases occurring in the course of tabes dorsalis have received close study from neurologists and pathologists. The subject was recently under discussion before the Berlin Medical Society. Rotter opened the debate, and said that the nucleus of the subject lay in the following questions: 1. Whether the joint affections in tabetics had any special features different from those of other joint affections. 2. Whether they had a mere outward or indirect relationship with tabes, or were connected with it by a consensus of internal causes. These questions would have to be decided, the speaker very properly added, by clinical study, pathological investigation, and experiment. Thus far, experiment has been fruitless; as the result of clinical observation, it is pretty generally accepted that the arthropathies of tabes differ clinically from all other joint affections, and that they present the following characteristics: Without any premonitory symptoms or appreciable cause, a particular joint suddenly becomes swollen, always to a considerable and sometimes to an enormous extent. The swelling is not attended with pain, fever, or redness, but the tissues surrounding the joint become œdematous and doughy. In a week or two the swelling disappears, and it is then noticed that serious injury has resulted to the joint, destruction of the cartilages and ligaments having occurred, so that the ends of the bones are in contact with each other. A creaking sound is heard on moving the joint, and luxations may readily take place. The destructive process does not expend itself on the cartilages, but extends to the ends of the bones, which become atrophied and eroded. There is very little tendency to exostosis, but the bones become fragile, and fractures may occur on the slightest injury, what is known as "spontaneous fracture" being also met with. The process may be limited to one articulation, or it may involve several joints. The order of frequency with which the different joints are affected is usually the following: the knee, the shoulder, the hip, the elbow, and the wrist.

The pathology of these affections is a vexed question. In his first cases Charcot found destruction of the ganglion cells in the anterior horns of the spinal cord, and to that he attributed the articular trouble; but other observers, and subsequently Charcot himself, failed to find any change in the anterior horns. Then the rarity of joint affections in the spinal paralysis of children militated decidedly against this theory. At the Berlin meeting referred to, Virchow remarked that there was virtually no difference between the *arthropathies des ataxiques* and arthritis deformans, although the former were characterized by a much more rapid development, a nervous influence doubtless bringing about lowered nutrition, and the poorly nourished bones falling ready victims. But, inasmuch as a general trophic influence, like that occurring in tabes, would necessarily act on all the joints alike, there must always be a local exciting cause to set up the disease in a particular joint. The nature of this local cause might not be evident, but, taking into account the close connection between syphilis and tabes, the idea might be entertained that the joint affection belonged rather to syphilis than to tabes.

Mention seems not to have been made of the recent researches of French investigators as to the condition of the peripheral nerves in tabes. Déjerine, Pierret, and more recently Pitres and Vaillard have drawn attention to the occurrence of inflammation of the peripheral nerves in the course of this disease. The latter observers attribute the arthropathies of tabes to a non-traumatic inflammation of the peripheral terminations of the nerves supplying the affected joint. A case lately reported by Strümpell, an abstract of which was given in this journal, seems to favor this view, as it goes far to show that the peripheral neuritis may occur as a forerunner of tabes dorsalis or in its initial stage—the stage in which the joint affections make their appearance. Observers are not wanting, however, who look upon the neuritis as secondary to the joint affection, which, they say, has its starting-point in a traumatism that, owing to the anæsthesia of the deep structures, may not have been perceived, or may have been overlooked. It is evident that the decision of the question will require further research and experiment. Let the result be what it may, it is of the utmost importance to practitioners to know that a painless articular affection, unaccompanied by fever, may occur as an early or premonitory symptom of tabes dorsalis, and that it too frequently ends in irreparable injury to the joint.

VASCULAR THERAPEUTICS.

The possibilities of scientific therapeutics are nowhere more clearly apparent than in the treatment of the diseases and functional disturbances of the circulatory system. A critical study of our resources will show that we have at command the means of combating almost all the deviations from normal circulatory function, provided they are not due to too profound a toxic or other cause. We can increase or diminish the force and frequency of the heart's contractions, control the contractility of the arteries, affect the action of some of the local mechanisms, and modify the deleterious or other effects of the central nervous system. That is to say, the circulation of the blood, both local and general, can, within certain limits, be controlled by an intelligent use of the remedies included in our materia medica.

This has been ably illustrated by M. Éloy, in a recent article in the "Gazette hebdomadaire de médecine et de chirurgie," who calls particular attention to the brilliant results that have been obtained in the treatment of spastic and degenerative arterial disease. He speaks with enthusiasm of what has been and what may yet be done with the nitrites and the iodine compounds. That the picture drawn by the French writer is not illusory will be attested by everybody who has tried the efficacy of these agents. That aneurysm may frequently be diminished and occasionally cured by the free but judicious use of potassium iodide is now generally admitted. That the arterial contraction of nephritic disease is held in check by these agents has become a matter of common experience, and the brilliant effects of the nitrites in cases of angeiospastic angina pectoris have brought the flush of pride to the face of many a physician and the warmth of gratitude to the heart of many a patient.

M. Éloy does not allude to the more complex vegetable remedies, such as *Veratrum viride*, aconite, and their congeners, nor does he speak of the old and trustworthy tartarized antimony. His paper is devoted more to the chronic and degenerative forms of disease, which are undoubtedly best treated with the iodides and the nitrites. But we should not forget that in acute disturbances we have equally valuable agents, especially those just named. In order, however, to secure the effects aimed at, the physician should at the start make a thorough diagnosis, regarding not only the prominent vascular lesion or disturbance, but also the condition of other organs, for these may require regulation before the drug selected will have its proper effect. For example, a distended condition of the alimentary canal may interfere with the action of the iodides, or even preclude their administration; some irritative state of the central nervous system may counteract the relaxing effect of any arterial depressant that may be given; or errors of diet, of sleep, or of occupation, as well as a score of causes apt to escape the notice of an unobservant practitioner, may thwart his efforts and bring defeat where victory might have been expected. To these collateral points M. Éloy does not allude, but they are equally important with the central idea, and to call attention to them is one of the reasons for the present writing.

MINOR PARAGRAPHS.

A SEMI-PUBLIC MEDICAL SOCIETY.

The New York Obstetrical Society has lately made a number of efforts to increase its usefulness. The most notable of them was made at the last meeting, when a new set of by-laws and regulations was adopted that practically reorganizes the society. The meetings are to be held at some place to be designated by the Executive Committee, instead of at the members' houses as heretofore; but there is nothing to prevent the committee from directing any particular meeting to be held at the house of a member who may chance to desire it. In the debate, one of the speakers used the term "semi-public" as expressing the character which the organization would now assume, and he founded this designation on the fact that the meetings, while they will not be open to the profession at large, may be attended by those who are invited by members, with the provisions that no member can take more than one person with him to a meeting, and that no invited guest can attend more than two meetings in any one year. It is expected that the society will now show less hesitation than before in admitting new members, and that gentlemen will seek admission who have heretofore been deterred from doing so by the expensive character of the entertainment which they may have felt it incumbent on them to provide. It is quite natural that the older members should regret the abandonment of the hospitable element; but it is to be hoped that no such feeling will stand in the way of their doing their part to make the society successful and attractive under the new order of things. The change is certainly to be looked upon as experimental, and we can only trust that it will prove satisfactory.

THE LATERAL CLOSURE OF WOUNDS OF LARGE VEINS.

In a recent number of the "Deutsche Medizinal-Zeitung," Dr. Schmid describes certain experiments on rabbits in closing wounds of veins by means of small clamps left in position for twenty-four hours under antiseptic dressings. The jugular or the femoral vein was exposed, and slit or nicked with scissors; the opening thus made in the vessel was then carefully closed with from six to twelve *serres fines*, and covered with protective. The vein was not dissected from its bed, but two catgut ligatures were passed under it to hold it in position. At the end of twenty-four hours the clamps were removed under antiseptic precautions, and the external wound was closed with sutures. In from six to fourteen days the vein was again exposed and dissected out. In no case was there any hæmorrhage, and in most instances the lumen was perfect and there was no thrombosis. In the majority of the animals the places that had been occupied by the clamps were marked only by fine whitish points or were indistinguishable, but in two of them the vessel was found transformed into a connective-tissue mass. Schmid thinks that this method of treatment may find a wide range of application to the human subject in the closure of wounds of large veins, and result in the abandonment of the practice of ligation above and below the wound.

PROFESSIONAL SECRECY.

The subject of the confidential nature of the information given to physicians by patients has been much discussed of late, especially by our French brethren. One aspect of the matter has been called to our attention by an esteemed correspondent, and that is the insertion of patients' names in clinical reports read before medical meetings or published in the journals. All this is generally quite unnecessary to a perfect understanding of the features of the case from a scientific point of view, and in some instances it would doubtless be construed as a violation of the legal obligation of secrecy imposed upon physicians. It is not alone the publication of patients' names that is objectionable, but that of other particulars that might easily lead to a recognition of their identity. We quite agree with our correspondent when he says: "While some people may be indifferent as to their private affairs becoming known to the world, I beg leave to suggest that particulars which open the way to recognition of personality be omitted from reports of disease made by physicians."

THE HARVARD MEDICAL SCHOOL.

Last week, quoting from a Boston publication, we published a paragraph in which President Eliot was reported to have said: "A plan for abridging the four years' course of study in certain cases is now under consideration." An esteemed correspondent now informs us that what President Eliot really said was the following: "The subject of the abridgment of the college [academic] course by those students who go directly from the college into one of the professional schools of the university is now under discussion by the Council, to the end that the average age at which graduates are prepared to begin the practice of their profession may be reduced." In the medical school the course of study recommended by the faculty covers four years, and our correspondent says—and we may add that we quite agree with him: "I am sure that the only modification of this course will be in the way of enlargement and improvement as opportunity and resources may permit."

STRICTURE OF THE URETHRA IN WOMEN.

At a recent meeting of the Obstetrical Society of London, the proceedings of which we find reported in the "Lancet," Dr. Herman mentioned six cases of urethral stricture in women under his own care, and gave the conclusions at which he had arrived from the study of these cases and twenty-three others that he had found recorded. While gonorrhœa, he said, was the ordinary cause of stricture in either sex, young persons alone being considered, aged men suffered chiefly from stricture of prostatic origin, and old women were found to be affected with stricture due to general fibrous thickening and induration of the urethra, the origin of which, he suggested, might reside in the urethro-vaginal cellular tissue, which was the homologue of the prostate. As to treatment, he had found rapid dilatation preferable to any other method.

THE HOSPITAL SATURDAY AND SUNDAY COLLECTION.

It is announced that the Board of Managers of St. Luke's Hospital, by whose action, nine years ago, the New York collection was initiated, has taken the exceedingly wise and creditable step of passing resolutions favoring the apportionment of the entire collection among the associated hospitals, on the basis of the amount of work done by them severally during the preceding year, and discouraging the designation of preferences by donors. It seems to us that this would be the best course under any circumstances, and it is particularly gratifying that the proposal should have come from an institution which, while in need of all the money it can obtain for the prosecution of its work, would probably benefit as much as any of the other hospitals by a continued deference to the wishes of contributors.

ITEMS, ETC.

The University of Michigan.—At a recent meeting of the Michigan State Board of Health, resolutions were adopted asking the regents of the university to establish a laboratory of hygiene. The secretary of the board, Dr. Baker, was among those who spoke while the resolutions were under discussion, and he very properly remarked that such a laboratory would not be an untried experiment, but the amplification of a laboratory that had already made contributions of incalculable value, mentioning, with justifiable pride, Professor Vaughan's researches.

St. John's Riverside Hospital at Yonkers is reported to have recently received a gift of $500 from Mr. Cornelius Vanderbilt.

Russian Medical Items.—We learn from the "St. Petersburger medicinische Wochenschrift" that Dr. Rudolph Kobert, extraordinary professor of pharmacology, dietetics, and the history of medicine at Dorpat, has been nominated ordinary professor; that Dr. Schtschelkow, professor of physiology at Charkow, has been made emeritus professor; and that Professor Billroth, of Vienna, was lately called to Kischinew, to operate for cancer of the breast, for which he received a fee of 5,000 roubles.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 23, 1887, to January 29, 1887:*

Morris, Edward R., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, to take effect about March 10, 1887, with permission to apply for an extension of twenty days. S. O. 6, Division of the Pacific, January 19, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the six weeks ended January 29, 1887:*

Wyman, Walter, Surgeon. Granted leave of absence for three days. January 14, 1887.

Wheeler, W. A., Passed Assistant Surgeon. To proceed to Erie, Pa., as inspector. January 12, 1887.

Society Meetings for the Coming Week:

Monday, *February 7th:* New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Alban's, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *February 8th:* New York Medical Union (private); Medical Society of the County of Rensselaer, N. Y.; Newark (private) and Trenton (private), N. J., Medical Associations.

Wednesday, *February 9th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Societies of the Counties of Albany and Cayuga, N. Y.; Franklin, Mass., District Medical Society (quarterly—Greenfield); Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society (conversational).

Thursday, *February 10th:* New York Laryngological Society; Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *February 11th:* New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *February 12th:* Obstetrical Society of Boston (private).

OBITUARY NOTES.

Silas E. Stone, M. D., of Walpole, Mass., died on Saturday, January 29th, at the age of forty-eight. He was graduated from the Harvard Medical School in 1860, and at the beginning of the civil war he entered the Twenty-third Massachusetts regiment as assistant surgeon, but was eventually compelled to resign on account of sickness. He was a member of the Massachusetts Medical Society and of the Norfolk, Mass., District Medical Society.

William S. Robertson, M. D., president of the Iowa State Board of Health, died at Muscatine on Thursday, January 20th, in the fifty-sixth year of his age. He was born in Lancaster, Pa., received his literary education at Knox College, Galesborough, Ill., and was graduated from Jefferson Medical College in 1856. After practicing his profession for several years in Columbus City, Iowa, he settled in Muscatine in 1869. He was professor of the theory and practice of medicine and clinical medicine in the Medical Department of the State University of Iowa, a member of the American Medical Association, of the Iowa State Medical Society, of which he was president in

1873–'74, of the Eastern Iowa District Medical Society, of which he was president in 1876–'77, of the Louisa County Medical Society, of which he was president in 1860–'61, and of the Muscatine County Medical Society, of which he was president at the time of his death. He was the originator, and president in 1876, of the Board of Trustees of the Asylum for Feeble-minded Children at Glenwood, Iowa, and during the civil war was major in an Iowa regiment of infantry.

James A. Hopson, M. D., of Piermont, N. Y., died on Thursday, January 27th, at the age of seventy-eight. Dr. Hopson took his medical degree at Fairfield in 1830. He was a member of the Medical Society of the County of Rockland, and ten years ago he was its president.

Letters to the Editor.

SURGICAL INFECTION.

Brooklyn, *January 18, 1887.*

To the Editor of the New York Medical Journal:

Sir: Apropos of the communication of Dr. Leuf, in your issue of January 15th, entitled "Surgical Infection; a Reply," which is a criticism of Dr. George R. Fowler's paper on "Surgical Infection; is it a Chimera?" allow me to state that, although Dr. Fowler's valuable paper does not need my indorsement, yet it is but justice to the members of the Brooklyn Pathological Society who participated in the discussion of Dr. Leuf's original paper that their remarks should appear in print. I hope you will do me the honor to publish mine, which were forwarded to you with the proceedings of the meeting nearly a year ago. It will be seen that both Dr. Fowler and I considered Dr. Leuf's paper, when it was read, as a direct and unmistakable arraignment of the antiseptic method, although Dr. Leuf certainly seems to desire to modify that view in his article of January 15th. At the close of the discussion of his paper, Dr. Leuf did not offer to refute a single objection raised, and it is hardly in good taste for him to do so at this late day. Surgical science has advanced ten months since February of last year, and I sincerely hope that Dr. Leuf has kept pace with that progress. Very respectfully yours,

Charles N. Dixon Jones.

⁂ Our correspondent has been made aware of the reason which prevented our publishing Dr. Leuf's original paper. As we did not publish the paper, it would have been absurd for us to publish the discussion. If, however, our correspondent will arrange what he said at that time in the form of a paper, we shall be happy to give it our early consideration.

Proceedings of Societies.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Eighty-first Annual Meeting, held in Albany, Tuesday, Wednesday, and Thursday, February 1, 2, and 3, 1887.

The President, Dr. William S. Ely, of Rochester, in the Chair.

Tuesday's Proceedings.

The President called the meeting to order at 10.30 a. m. Prayer was offered by the Rev. Mr. Foster.

The President's Address.—In his address the president recommended that hereafter the president be given discretionary power, when the amount of scientific material would justify it, to arrange for the formation of two or more sections, for which he might appoint a chairman and a secretary. It was also recommended that the Committee on Legislation report at the next annual meeting such changes as might seem desirable in the laws affecting State and county medical societies; and that the Committee on Hygiene report any desirable changes in the laws affecting boards of health, additional to and in pursuance with those on page 6 of the appendix to the volume of "Transactions" for 1886.

Separation and Displacement of the Upper Epiphysis of the Os Brachii in a Child Two Weeks Old, caused by Violence.—Dr. W. C. Wey related the history of a case which, he said, illustrated a rare accident and how perfect a cure nature would effect.

The Adaptation of Corning's Method of producing Local Anæsthesia to Operations on the Eyelids.—Dr. David Webster, of New York, described the method, and said that he had found it advantageous.

Medication of the Nerves of the Spinal Cord.—Dr. J. L. Corning, of New York, read a portion of a paper in which he described the method of applying cocaine. He said that in sciatica he preferred to use a large quantity of a one-per-cent .solution rather than a smaller quantity of a stronger solution.

Dr. A. M. Phelps, of Chateaugay, thought that danger attended the free use of cocaine, and that as little as possible should be used.

Dr. D. B. St. John Roosa, of New York, advocated the use of cocaine, but thought that the quantity should be as small as possible.

Is the Danger of Post-partum Hæmorrhage increased by the Use of Anæsthetics during Parturition?—Dr. Fordyce Barker, of New York, read a paper with this title, in which he expressed the opinion that no woman should die of post-partum hæmorrhage due solely to uterine inertia. He said that the real question was, Did anæsthetics, properly administered to relieve pain, increase the danger of post-partum hæmorrhage? He had used chloroform almost exclusively since 1850, and he preferred it to ether because it was less irritating to the respiratory tract; the odor was more agreeable, a smaller quantity was required, its action was more rapid than ether, and it could be used intermittently. Chloroform oftener accelerated than retarded labor. Patients who had been sent to him because of their disposition to post-partum hæmorrhage in former labors without anæsthetics had done better under chloroform. The presence of heart disease did not contra-indicate its use. He agreed with Dr. Reeve that close scrutiny failed to show that the judicious use of chloroform exerted an injurious influence on either the mother or the child. The only deaths from its use in obstetrics by competent practitioners had occurred in patients who had had convulsions. The speaker had had but one fatal case of post-partum hæmorrhage, and in that case chloroform had not been used.

Dr. E. L. Partridge, of New York, gave as an additional objection to the use of ether the danger attending its use in small rooms. He said that protracted labor should be obviated because of the injurious effects that were left on the nervous system of the patient. He thought that anæsthesia could be employed to advantage in most cases of labor. He agreed with Dr. Barker that uterine exhaustion was frequently called uterine inertia.

Dr. B. F. Sherman, of Ogdensburg, said that he had given chloroform for many years, and that where it had prolonged labor once it had shortened it ninety-nine times.

The Correction of the Deformity termed Pug-nose by a

Simple Operation.—Dr. J. O. Roe, of Rochester, read a paper on this subject, in which he said that making the outline of a pug-nose regular by taking away a portion caused the nose to look larger, because it rendered it symmetrical. In describing the operation he said that the end of the nose was turned back, sufficient tissue removed to correct the deformity, and the integument again returned. Malformation due to deformity of the cartilage was corrected by dividing the cartilage and making the patient wear a suitable splint. He had operated in five cases and the result had been good in all.

The Committee on the President's Address.—Dr. H. G. Piffard, Dr. B. F. Sherman, and Dr. J. N. Kendall were appointed, and reported in favor of the recommendations contained in the address except those relating to changes in the organization of State and county societies. The report was adopted.

The Committee on Legislation.—The action of the President in appointing Dr. Bendell chairman of the committee in place of Dr. Roosa was decided by the Committee on By-Laws not to be in accordance with the By-Laws, but they recommended that the society approve the action of the president without establishing a precedent. The recommendation was adopted.

The Report of the Committee on Legislation was read and the following resolution adopted: That, while the society approves of the report recommending the codifying of the present laws regarding medical matters, it does not relinquish the conviction that it is necessary for the people and the profession that the law creating a board of medical examiners be passed.

The Influence of Small Doses of Salts of Calcium and Potassium on Muscle, Cardiac and Skeletal.—A paper with this title, by Dr. Sydney Ringer, of London (an honorary member), was read by Dr. E. V. Stoddard, of Rochester. The author said that saline solutions, when circulated through muscle in such a way as to come in contact rapidly with muscular protoplasm, induced speedy lessening or loss of contractility. They acted alike on cardiac and skeletal muscles. Lime and potassium salts, when brought into similar intimate relation to muscle protoplasm, excited muscular contractility. Lime salts speedily restored muscular contraction when stopped by saline solutions.

The Results of Multiple Paracentesis of the Drum Membrane on Hearing in Chronic Aural Catarrh.—Dr. O. D. Pomeroy, of New York, read a paper with this title. [It will be published hereafter.]

The Nominating Committee was announced as follows: First senatorial district, Dr. T. R. Pooley; second, Dr. A. M. Campbell; third, Dr. B. A. Mynderse; fourth, Dr. A. W. Suiter; fifth, Dr. W. E. Ford; sixth, Dr. H. C. May; seventh, Dr. J. N. Kendall; eighth, Dr. D. Little; member at large, Dr. Harvey Jewett.

Is Modern Midwifery Meddlesome?—Dr. David Little, of Rochester, read a paper on this subject in which he characterized certain teachings as contradictory, referred to the importance of supporting the perinæum, Credé's method of placental expression, the immediate operation for laceration of the perinæum, antiseptic injections, etc. He said that his strictures on prevailing practices were meant to apply only to cases of normal labor. He believed in letting well enough alone.

Dr. Barker, of New York, expressed himself as opposed to an immediate operation for lacerated perinæum, to antiseptic injections in normal labor, and to the view that rise of temperature was always due to septicæmia. He spoke in support of Credé's method.

A Case of Dislocation of the Head of the Left Femur under the Pubic Arch.—Dr. J. S. Wight, of Brooklyn, read the history of a case.

A Plea for the more Careful Investigation of the Urine in Infants and Young Children.—Dr. L. E. Holt, of New York, read a paper on this subject, in which he said that medical literature contained but little on kidney disease in infants, except as occurring in infectious diseases. The speaker had recently seen six cases, and a friend of his had met with two, of primary disease in the kidneys. Five of the patients had died. He laid much stress on the necessity for examining the urine in all cases of disease in infants.

Some Important Points in the Management of Deep Urethral Stricture.—Dr. F. N. Otis, of New York, read a paper on this subject. [It will be published hereafter.]

State and Preventive Medicine.—In a paper on this subject, Dr. Alfred Mercer, of Syracuse, recommended the formation of a sanitary organization which should have representatives among all interested classes throughout the State.

A Substitute for the Dinner Pad.—Dr. Little, of Rochester, showed a Barnes's dilator and suggested its use as a dinner pad when applying the plaster-of-Paris jacket.

The Intoxicant Habit.—In a paper on this subject, Dr. H. R. Hopkins, of Buffalo, said that the medical profession was in a great degree responsible for the existence of this habit in all of its varieties.

The paper was discussed by Dr. W. C. Wey, of Elmira, who opposed high license as unlawful, and approved of inebriate asylums.

Remarks on Intra-uterine Medication.—Dr. T. Addis Emmet, of New York, read a paper on this subject, in which he gave his experience with intra-uterine medication. He stated that he now seldom introduced anything into the uterine canal except in the treatment of some special lesion, such as polypi.

The Necessity for the Complete Removal of the Uterine Appendages whenever Operation is called for.—Dr. A. Vander Veer, of Albany, related the histories of six cases bearing upon this subject, and stated that he was deeply impressed that many so-called nervous patients subjected to operation could be relieved by medication.

The discussion was opened by a paper by Mr. Lawson Tait, of Birmingham, England (an honorary member), entitled, "Of the Results of Unilateral Removal of the Uterine Appendages," and read by Dr. Ward, of Albany. Twenty-seven of Mr. Tait's first thousand cases of abdominal section, prior to 1884, related to the subject of Dr. Vander Veer's paper. The conclusion drawn from the histories of a number of cases was that, if a woman's sufferings were sufficient to justify abdominal section for chronic inflammatory disease of the uterine appendages, and only one side was found to be affected, the operation, to be of lasting benefit to the patient, should be bilateral.

Dr. T. Addis Emmet deprecated the too great frequency of the operation, as did also Dr. W. Gill Wylie, of New York.

Wednesday's Proceedings.

County Societies.—A resolution was offered by Dr. Parker instructing the Committee on Legislation to report at the next annual meeting the action that ought to be taken when the majority of a county society disbanded the society and transferred its property to a rival organization. Adopted.

The Report of the Committee on Hygiene was read by Dr. Stoddard, of Rochester. It showed an improvement in the sanitary condition of institutions throughout the State, but there was still room for further improvement, especially by individual physicians.

The Details of Antiseptic Treatment in Emergencies and Private Practice, with Practical Demonstrations of

Methods, were given in a paper by Dr. A. G. Gerster, of New York.

The Management of Certain Forms of Varo-equinus was demonstrated by Dr. A. M. Phelps, of Chateaugay, who read a paper on the subject.

The Comparative Value of Antiseptics.—Dr. Lucien Howe, of Buffalo, read a paper on this subject, and demonstrated methods of making tests for antiseptics, and what strength of a solution was necessary to stop the growth of bacteria.

The Radical Cure of Reducible and Irreducible Herniæ.—In a paper with this title Dr. R. F. Weir, of New York, mentioned improvements in the details of Heaton's operation, and gave statistics of cases operated on by himself and two other physicians.

In the discussion that followed, Dr. W. Gill Wylie referred to the danger of the occurrence of hernia after laparotomy, and Dr. A. Vander Veer stated that Mr. Tait observed no hernia following his laparotomies.

Tobacco Amblyopia.—In a paper on this subject Dr. Bendell, of Albany, stated his belief that amblyopia from tobacco was more common than was generally supposed. The prognosis was usually unfavorable.

Dr. Roosa had never seen a case of amblyopia positively traceable to tobacco.

Paroxysmal Cardiac Dyspnœa.—Dr. A. L. Loomis, of New York, read a paper on this subject, in which he said that the essential cause of this form of dyspnœa was arrest of blood in the heart or pulmonary arteries, and that the condition must be paroxysmal or end fatally. In the majority of instances the arrest took place in the right heart, shutting off the blood from the lungs while other internal organs were congested. If the arrest occurred in the left heart, the lungs were found congested and other organs anæmic. There was little hope of long life after the paroxysms had once developed. The speaker said that persistence of endocardial murmurs was not inconsistent with long life and the enjoyment of a fair degree of health.

A Demonstration of the Method of Intubation of the Larynx was made by Dr. J. O'Dwyer, of New York.

Measures for Increasing the Society's Membership.—Dr. Wey, of the special committee appointed last year to consider means for increasing the membership of the society, reported in favor of delegates serving three instead of four years, and their eligibility to permanent membership after attending to annual meetings. He also reported in favor of receiving delegates from special societies, naming the New York Post-graduate Medical School and Hospital and the New York Polyclinic. The first recommendation was adopted and the second was referred to the Committee on By-laws.

On the Mammary Gland.—A paper on this subject was read by Dr. E. F. Brush, of Mount Vernon.

The Merritt H. Cash Prize Essay.—Dr. G. F. Shrady, of New York, reported for the Committee on Prize Essays that the prize had been awarded to Dr. A. N. Bell for an essay entitled "The Physiological Conditions and Sanitary Requirements of School Life and School Houses."

Observations on Reflex Nervous Disturbances.—Dr. W. E. Ford, of Utica, said in a paper on this subject that physiological facts did not warrant a diagnosis of reflex nervous disturbances except in cases of sudden explosions of nervous energy. Many conditions that were commonly ascribed to reflex action were really due to a lesion of the spinal cord.

Surgery of the Lungs.—Dr. Roswell Park, of Buffalo, read a paper classifying cases under three heads: Pneumectomy, pneumotomy, and thoracoplasty. Pneumotomy was indicated in bronchitic abscess, tubercular abscess, gangrene, hydatid cysts, and cases of foreign body. Pneumotomy was indicated in hæmorrhage from a lung wound, traumatic hernia, neoplasms, and tubercle. He looked forward to the time when pneumectomy would be the treatment for tubercle of the apex. Thoracoplasty was employed in empyema resisting other treatment.

The Relation of Laryngeal to Pulmonary Phthisis; Importance of Local Treatment.—Dr. C. C. Rice, of New York, in a paper on this subject, expressed the opinion that laryngeal disease in connection with pulmonary tuberculosis was not always tubercular. In about 65 per cent. of cases there was characteristic tubercular deposit. In the remaining cases the process was slow, commencing with subacute catarrh, becoming chronic, and finally ulcerative. The disease being often not tubercular, the term tubercular laryngitis was unfortunate.

Some Points of Medico-legal and Scientific Interest in the Case of the People versus Druse were given in a paper by Dr. A. W. Suiter, of Herkimer.

Laryngeal Intubation by O'Dwyer's Method.—Dr. E. L. Partridge, of New York, called attention to some points in the procedure which he said were not new. Let us, he said, try intubation fairly, not expecting marvelous results.

Dr. A. Jacobi, of New York, had thirty years ago spoken of Bouchut's method as ridiculous. Two years ago he had expressed doubts as to the success of O'Dwyer's method. He was now convinced of its usefulness.

Some Considerations concerning Cancer of the Uterus, especially as to Palliative Treatment in later Stages.—Dr. A. F. Currier, of New York, after general remarks on cancer, spoke of treatment adopted at the Skin and Cancer Hospital. While the radical operation had prolonged life not longer than two years on the average, yet in suitable cases he advised it.

Nasal, Pharyngeal, and Laryngeal Instruments were presented by Samuel Sherwell, of Brooklyn.

The Duty of the Medical Profession in Promoting Cremation.—Sir Spencer Wells, of London, an honorary member, contributed a paper which was read by Dr. A. Jacobi. He considered cremation the safest and best mode of disposal of the dead.

Dr. Jacobi then stated the other side of the question, the opposition to cremation offered by different writers.

Embolism of the Radial Artery Complicated by Endocarditis.—A paper on this subject was read by Dr. Martindale.

Practical Observations on Abdominal Surgery.—Dr. W. Gill Wylie gave a brief summary of his work in abdominal surgery since 1882.

The President's Annual Address, on the achievements in science and letters of men who had been connected with the medical profession, was read at 8 p. m. in the Assembly rooms.

Thursday's Proceedings.

The Cause and Prevention of Blindness.—Dr. Howe, of Buffalo, moved that a committee of three be appointed to inquire into the cause and prevention of the great increase of blindness throughout the United States, which he attributed to the increase of contagious ophthalmia. The motion was carried.

The Prize Essay.—The motion to print and distribute among municipal and school authorities in the State fifteen hundred copies of Dr. Bell's essay was carried.

Syphilis in connection with other Diseases of the Skin was the subject of a paper by Dr. L. D. Bulkley, of New York.

The Report of the Committee on Nominations was presented as follows: For President, Dr. A. L. Loomis, of New

York; for vice-president, Dr. A. M. Phelps, of Chateaugay; for secretary, Dr. W. M. Smith, of Syracuse; for treasurer, Dr. C. H. Porter, of Albany. For censors, *Southern District*, Dr. J. S. Warren, of New York County; Dr. W. B. Chase, of Kings County; Dr. W. H. Helm, of Westchester County; *Eastern District*, Dr. J. Lewi, of Albany County; Dr. T. Burton, of Montgomery County; Dr. H. McLean, of Rensselaer County; *Middle District*, Dr. J. G. Orton, of Broome County; Dr. R. Frazier, of Oneida County; Dr. J. N. Goff, of Madison County; *Western District*, Dr. T. Dimon, of Cayuga County; Dr. D. Little, of Monroe County. *Medical Department of Syracuse University*, Dr. H. Jewett, of Ontario County. Committee of Arrangements, Dr. S. B. Ward, of Albany; Dr. E. L. Partridge, of New York; Dr. F. C. Curtis, of Albany. Committee on By-Laws, Dr. W. C. Wey, of Elmira; Dr. H. G. Piffard, of New York; Dr. W. M. Smith, of Syracuse. Committee on Hygiene, Dr. E. V. Stoddard, Dr. F. C. Curtis, Dr. A. N. Bell, Dr. J. P. Creveling, Dr. E. Hutchinson, Dr. W. H. Bailey, Dr. E. F. Brush. Committee on Legislation, Dr. Lawrence Johnson, Dr. F. R. S. Drake, Dr. H. Bendell. Committee on Ethics, Dr. A. Jacobi, Dr. A. Matthewson, Dr. J. W. Whitbeck. Committee on Prize Essay, Dr. G. F. Shrady, Dr. F. P. Foster, Dr. W. M. Carpenter. Committee on Publication, Dr. W. M. Smith, Dr. A. Mercer, Dr. C. H. Porter, Dr. W. M. Carpenter. Honorary Members, Dr. E. Landolt, of Paris; Dr. James Grant Bey, of Cairo, Egypt; Dr. A. D. Grinnell, of Burlington, Vt.; Dr. ——, of New Orleans. Eligible to Honorary Membership, Dr. W. H. I. Allchin, of London; Dr. D. N. Wilcox, of Lee, Mass. Delegates to the Massachusetts Medical Society, Dr. D. Lewis, Dr. C. H. G. Spencer; to the New Jersey Medical Society, Dr. P. A. Morrow; to the Pennsylvania Medical Society, Dr. F. W. Hinkel; to the Connecticut Medical Society, Dr. N. C. Husted; to the Vermont Medical Society, Dr. M. H. Burton, Dr. W. O. Moore, Dr. A. M. Phelps; to the New Hampshire Medical Society, Dr. H. Jewett, Dr. O. B. Douglass; to the Canada Medical Association, Dr. L. Howe.

The report was adopted.

Resignations.—A resolution was passed empowering the president to accept the resignations of members of the society; also to accept resignations and fill vacancies, *ad interim*, on committees.

After the reading of several papers by title, and passing a vote of thanks to the retiring president, the meeting adjourned.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of January 6, 1887.

The President, Dr. B. F. Baer, in the Chair;
Dr. W. H. H. Githens, Secretary.

A Report of Six Hundred and Sixteen Cases of Labor in Private Practice, by Dr. H. H. Whitcomb, of Norristown, was read by the secretary:

Up to March 31, 1886, the writer had attended six hundred and sixteen cases of obstetrics. There had been no death of a mother and only two cases of still-born children; one of these was destroyed by craniotomy. The forceps had been used in two cases only. He had had no case of twins. He had had one case of elbow, one shoulder, one hand and face, and three breech presentations; all the others were by the vertex. Placenta prævia was present in two cases at full term and in two miscarriages, one at seven and one at five months. Puerperal convulsions occurred in two patients. A series of thirty-two cases of puerperal fever, but fortunately without a single death, occurred in the winter and spring of 1882. The first case occurred after he had been in attendance on a case of scarlet fever, and was followed by three other cases; the next two or three obstetric patients escaped, when he was called to attend a woman who was confined while convalescent from erysipelas. The fever developed in her, and then every lying-in patient he attended that winter and spring suffered from it. Consultation confirmed the diagnosis in all the cases. One instance was after a miscarriage at seven months following pneumonia. The patient had a tedious convalescence, but had since had a child weighing thirteen pounds and a half. He tried to stop attendance on this class of patients, but could not get rid of them. The epidemic ceased as suddenly as it commenced, and he had not had a case since. The smallest child born at full term weighed three pounds and lived only three days. Three deaths of infants had occurred from trismus, and four deaths, in children a few days old, for which he was unable to assign a cause. They simply moaned until they died, while they appeared to be in good condition. He had had one case of hour-glass contraction and four of severe post-partum hæmorrhage at term. His success he ascribed to patient waiting and conservatism. He did as little meddling as possible and did not use antiseptic injections. He was very positive that the frequent use of the forceps was abuse. He had had a number of cases, possibly twelve, of ruptured perinæum; they were immediately stitched with a perfect result in all cases. He had never had a case of vesico-vaginal fistula.

Dr. H. A. Kelly said that an observer must be careful not to impose the rules and statistics of an average Philadelphia practice upon the Norristown people. While it was true that ailing delicate women lived and required obstetrical services in Norristown as elsewhere, yet it was a fact that in Philadelphia the uptown mill population, from all over the civilized world, and the downtown population of pampered society women and alley offscourings, presented very different problems to the accoucheur.

With notable exceptions, labor in the country was *easier*. Differences of the same kind in greater degree existed between the native and the foreign population. The speaker was much struck with this fact last summer when he went to the Anatomical Institute in Leipsic, to Herr Dornfelder, to buy a normal female pelvis. He was going to Berlin, to return in a month, and instructed him to find a pelvis as near a normal specimen in the museum as he could in the large amount of material passing weekly through the institute. On his return he was given a specimen he then had in his office, which was the nearest to the normal that Herr Dornfelder was able to find; and he had been assured that a normal pelvis was rare. This dried pelvis, with artificial ligaments, measured: Sp. I., 25½ cm.; Cr. I., 29½ cm.; Cr., 9 cm.; Pt., 13 cm. The argument as to different necessities in different localities held with regard to the use of antiseptics.

A Year's Work in Ovariotomy.—Dr. William Goodell read a paper with this title. In it he stated that he had had during the past year fifty-nine laparotomies, but that, lest his paper should be too long, he should limit himself to the consideration of his ovariotomy cases. Of these he had had thirty-nine cases with three deaths.

Of these deaths, one had occurred on the table from the difficulties of the operation. It had been a dreadful case of intra-ligamentous cyst with adhesions on all sides, from which it had been shelled out without a pedicle. The ureter had to be dissected out for twelve inches, and the entire colon, womb, bladder, and small intestines had been attached to the cyst. It had been a very forlorn case from the start, and he had operated merely from a sense of duty. He stated that in the removal of intra-ligamentous cysts the ureter was in great danger, and he believed that it had been repeatedly torn across without the knowledge of the surgeon. The speaker stated that before the death of this patient he had had in succession twenty-two successful cases, and afterward a series of eight cases before the next death took place—viz., thirty-one cases with one death. The second death had been due to obstruction of the bowels in a case of large fibroid of the womb and ovarian cyst weighing sixteen pounds. On account of the fibroid, both ovaries had been removed. He had had his share of cases of obstruction, but this had been the first fatal one in his recollection. The remedies that he had used had been calomel and belladonna by the mouth, and turpentine by the rectum. The obstruction was due to the adhesion of a knuckle of intestine either to the stump of the pedicle, to the abdominal wound, or to some denuded surface. As soon as symptoms of obstruction presented themselves, he always aimed at once to open the bowels. The third death had occurred in a case of malignant cystic disease of both ovaries in which the operation had been incomplete. Malignancy had been suspected, but the operation had been forced on him on account of the excessive pain from which the woman had suffered. Yet he argued, from his own experience and from that of Schroeder and Martin, that, other things being equal, it was always wise to remove ovarian cysts even when malignant, for patients' lives would be greatly prolonged by the operation. The right ovarian cyst had no pedicle, but had ended in a brittle cancerous mass as large as his fist. This with very great difficulty had been ligated *en masse*, and then bleeding vessels had been secured separately. The left ovarian cyst had been so fastened to the womb, the pelvis, and the broad ligament by masses of cancerous excrescences that he had not attempted to remove it. He would have abandoned the case after he had discovered the nature of the complications; but he had gone too far to recede, for his hand had been inside of the right cyst to break up its septa, and blood had been flowing profusely from it. The lady died twenty-six hours later from shock and hæmorrhage.

He stated that some ovariotomists did not report their incomplete operations or their exploratory incisions, but that he thought it fairer to do so. If his memory served him no trick, this was the only incomplete operation for ovarian cyst that he had ever had. None of his cases had been selected, and he had refused to operate in one case only, and that one on account of epithelial cancer of the cervix; so that he had no exploratory incisions to report. He had had twenty-one cases with adhesions, a very large proportion of which he had attributed to the tendency women in this country had to postpone the day of operation. He had also had twenty cases of double ovariotomy; but this large number had been due to his rule of removing the second ovary in all malignant or suspicious cases, in all patients who had passed the climacteric, in all cases of incipient disease, and always when asked by the patient to do so. He further stated that he still adhered to Listerism, and that he used Keith's dressing of one part carbolic acid to seven of glycerin.

Dr. Parish cited a few instances of evil results following abdominal tapping for purposes of diagnosis or for relief from distension. In his first ovariotomy case, with the view of clinching the diagnosis, he had aspirated and withdrawn a few drachms of somewhat cloudy ovarian fluid. The patient presented some symptoms which in a few days became grave—pain in the tumor, rigors, rapid and feeble pulse, and high temperature. He operated during the existence of these symptoms, and found suppuration of the interior of the cyst and extensive anterior adhesions; both conditions doubtless dependent upon the aspiration. The patient recovered.

A few years ago a well-known medical gentleman of this city had aspirated a tumor supposed to be a multilocular ovarian cyst. Though the fluid had been stated to verify the diagnosis, the patient had miscarried in one or two days of twins at about the fifth month, and the tumor had proved to be simply a uterus enlarged by reason of a multiple pregnancy. He had recently seen in the Philadelphia Hospital a shocking case of labor, in which active labor-pains had begun one week previous to the patient's admission to the hospital. No urine had been voided for several days. Pregnancy had been denied by the patient and her friends, and had not been recognized by two physicians. The woman was small and deformed, and there had been in the abdomen two fluctuating tumors—one a distended bladder, the other the uterus. Aspiration of both tumors was resorted to, a procedure that was not only unnecessary for diagnostic purposes in this case, but would probably have been highly detrimental to the patient had not the neglected and protracted labor already determined a rapidly fatal result. Though tapping for relief, and especially for diagnosis, was less frequently resorted to than had been the case a few years ago, yet even now it was too frequently done.

In reference to the development of cancer or sarcoma after the removal of seemingly benign ovarian tumors, the speaker had seen recently an example in a patient operated on by Dr. Hickman and himself. A large cyst of one ovary and a small one of the other, both free from the appearance of malignancy, were removed and the patient made a tardy recovery. In about a year sarcomatous growths developed in the neck and axilla, and a large one in the abdominal wall of the left lumbar region. The patient died a few weeks ago and the autopsy was made by Dr. Morris Longstreth, and, though the sarcomas referred to were present, there was no intra-pelvic disease. An interesting feature was the total disappearance of the ligature of iron-dyed silk with which the pedicles and several vessels had been secured about eighteen months previously.

Dr. Kelly stated that, while simple tapping often was in no way injurious, it was also often productive of grave injury, and one of his own cases illustrated this point very well. The patient, having a cyst weighing a hundred pounds, had been tapped in the left iliac region by a homœopathic surgeon. She had previously suffered from pressure symptoms. From that time she had suffered from severe inflammatory pains around the puncture, and at the operation the extensive dense adhesions at this point constituted the chief difficulty. She was now well, more than a year since the operation. It was, he said, a cause for mutual congratulations for American operators that their results were becoming so good. The whole credit of this was in the thorough use of antiseptic agents and the rendering the field of operation completely *aseptic*. He believed, too, that our cases at home were more difficult than those abroad. The tumors we operated upon were older, and with the increasing duration of an ovarian tumor occurred many changes detrimental to the patient—depression of vitality from pressure symptoms, diversion of so much albumin from the system at large, surcharge of the emunctories, as well as adhesions and unfavorable changes within the tumor itself. Keith's dressing of a strong carbolized glycerin had rendered excellent results in his hands in at least twenty cases.

Dr. Goodell, in answer to a question by Dr. Baer, said that he operated during menstruation merely from pressure of time on the part of the patient, and little or no effect was produced on the discharge by the operation.

Dr. Joseph Price, commenting upon some points alluded to in Dr. Goodell's paper as to the contaminated atmosphere of a general hospital, cited the statistics of two hospitals: the special department of the Birmingham General Hospital, and the Birmingham Hospital for Women, covering a period from January, 1878, to September, 1885.

Dr. Montgomery considered Dr. Goodell's success gratifying, especially after tapping. A patient had come to him one month after tapping. She had a high pulse, septicæmia, large adhesions to the viscera, putrid clots in the tumor, etc., and died on the fifth day, with a temperature of 105°. He did not approve of tapping broad-ligament cysts. One patient with such a tumor had been tapped seven times. The tumor was subsequently removed, and he did not have a single vessel to tie. In this case the peritonæum had been pushed up by the tumor, and was not opened until late in the operation.

Dr. R. P. Harris had been requested by Dr. Parish to report the present condition of the patient from whom he had removed the ovarian tumor exhibited by him before the society at its meeting on March 4, 1886, the day after the operation, as he had seen her much more recently than Dr. Parish had. Dr. Harris stated that, notwithstanding the fact that the tumor had been largely solid, that it had grown rapidly, that the solid portion had an appearance of malignancy, and that there had been a small morbid growth projecting upward from the fundus uteri, the lady was to all appearance a well woman. He saw her on December 26th, when she professed to have perfectly recovered her health and strength after a very prolonged convalescence. Her appearance and activity certainly indicated that her statement was correct. The uterine nodule must have been a fibroid, as, had it been cancerous, it must have materially developed in nine months. The future of this case would be of much interest.

Three Successful Tait Operations were reported by Dr. Charles Meigs Wilson, who said that these cases were the first of a series performed without the use of carbolic-acid solutions for instruments and without the spray. Hydrant-water, boiled for six hours, was used for the instruments and sponges in the first and second cases, and a solution of mercuric chloride, 1 to 6,000, for like purposes in the third. The wounds in all three were dressed after the manner of Keith. The incisions were less than two inches in length. More than three months had elapsed since the operation in each case before it had been reported. It had seemed best to publish the cases in this manner, because the vast majority of all patients recovered without accident from the operation, and hence mere statistics of the healing of the wound amounted to little but evidence of individual skill. Statistics of the real relief afforded by the operation were what the profession needed, in order to give the operation its just place in modern surgical procedures.

Case I. *Myo-fibroma of the Uterus.*—The patient first came under observation in July, 1886. She gave her history as follows: Miss McM., aged thirty-two; nullipara; for the last sixteen months she had had a rapidly growing tumor of the abdomen; menses profuse; catamenial intervals, ten to fifteen days; for the past four months she had been rarely free from bloody vaginal discharge. She was emaciated and anæmic. She was very nervous and alarmed about the constant bloody discharge. She had reflex pains, but no ovarian tenderness or pain. She was obstinately constipated, owing to the pressure of the tumor upon the rectum. She was found to have a large fibroid tumor of the fundus and anterior wall of the uterus. The enlarged uterus was incarcerated in the cavity of the pelvis, and was very immobile. The sound entered the uterus seven inches and a quarter. Abdominal section was performed, September 20, 1886, with the assistance of Dr. E. Wilson, Dr. C. P. Noble, and Dr. E. Longaker. The tubes were as thick as the finger, they had thin walls, and were distended with blood. The ovaries were over size, and the right one was cystic. The ligature slipped from the uterine end of the left tube, and, before it could be secured, there was free hæmorrhage. The operation lasted forty minutes. Convalescence was retarded by abscess of one of the suture tracts. The patient made an excellent recovery. She had lost no blood since the second day after the operation, her appetite was good, and she was able to resume her occupation of seamstress. She frequently walked two miles to her work. All pain had disappeared. She had gained twenty-two pounds since the operation. December 20, 1886, the sound entered the uterus three inches and a quarter; the tumor was greatly reduced in size.

Case II. *Hystero-epilepsy.*—Mrs. C., aged thirty, primipara. Had always enjoyed good health until after the birth of her child six years ago. She had been delivered with forceps, and the cervix and perinæum had been badly torn. She had been in bed nine weeks after the confinement. No clear history of her puerperal trouble could be obtained. She had had profuse catamenial discharges since. About six months after the birth of her child she had first commenced to have attacks of loss of consciousness, followed by epileptoid seizures at her menstrual periods. These had gradually become so violent as to place her life in seeming jeopardy during their occurrence, and left her utterly prostrated. She had been in bed about twenty days out of every month for four years. Her epileptic seizures had occurred only at her monthly periods. Everything that her medical attendant could think of had been done for her, and her family were about to place her in an insane asylum. The ovaries and tubes were removed October 3, 1886. The operation was an easy and simple one. The patient made a speedy recovery without any untoward symptoms. She was now able to earn her living as a yarn-picker, working full time; had had no discharge of blood, little or no pain, *and not one seizure since the day of operation.*

Case III. *Tubercular Pyosalpinx.*—Miss E. R., aged nineteen, nullipara. This patient was also operated upon on October 3, 1886. Since menstruation began, at fifteen years of age, she had had constant dull aching pain, deep-seated in the pelvis. At her menstrual epochs her agony had been unbearable. The menses had always been slight in quantity and regular as to time. She presented a badly nourished appearance. Physical examination showed marked evidence of general tuberculosis. In spite of this fact and in view of her intense menstrual pain, oophorectomy was deemed justifiable and was accordingly done. Both tubes were as large as large bologna sausages, and both ovaries were cystic. Tubes and ovaries were matted in a mass of adhesions which rendered the operation very tedious—it lasted an hour and ten minutes. Microscopic examination of sections of the tubes showed colonies of the *Bacillus tuberculosis.* Both tubes were filled with a greenish pus which was very offensive. The recovery was complicated by an arthritis, the symptoms of which were so obscure as to render it difficult to say whether it was septic, rheumatoid, or hysterical. She eventually made a good recovery. Her physician, Dr. Walter E. Bibby, of Kensington, Phila., reported: "She is entirely free from pain, able to walk about, and to attend to light household duties. Under the use of cod-liver oil and malt and alcohol, her tubercular trouble seems to be making little or no progress." As her peritonæum showed evidence of tuberculosis, as an experiment, bichloride solution, 1 to 8,000, was used to wash out the abdominal cavity.

In Cases II and III the operations were done before Dr. A. W. Biddle, Dr. W. E. Bibby, Dr. W. C. Goodell, Dr. E. Wilson, Dr. Longaker, and Dr. C. P. Noble. All were done at the Philadelphia Lying-in Hospital. In each case the abdominal cavity was thoroughly flooded with boiled water before it was closed. The drainage-tube was not used. Uncarbolized Chinese silk ligatures and silk-worm-gut sutures were used. No anodyne was given after the operation, and no food for thirty-six hours after the operation.

Dr. Kelly was particularly interested in the tuberculous tubes, and regretted that an examination of the uterine discharges had not been made, as it would almost certainly have established the diagnosis. As to the propriety of operating upon a patient having a cavity in the lung, no general rule could be laid down; every such case stood by itself, and much must be left to the judgment of the operator.

The President would hesitate for some time before operating in a case of general tuberculosis with a pulmonary cavity. He did not think tuberculosis could cause pyosalpingitis.

Dr. Kelly remarked that at least two cases had been observed here and many more abroad, and it had been recently included by Hegar among the tubal diseases which might require operation.

Dr. Parish thought that the general condition of the patient would decide the question. Severe pain should be relieved unless the patient had a very short time to live.

Hydrosalpinx.—Dr. Kelly exhibited the tubes of a patient who had suffered from metrorrhagia over thirteen years. She had been in five large hospitals in Philadelphia without relief, and had faithfully tried every plan of treatment, systemic and *per vaginam.* The diagnosis of enlarged tubes was made before operation, and, on removal with their respective ovaries, the tubes were found, one as large as a bologna sausage and the other as large as a small sausage, with a limpid fluid. She had lost no blood since the metrostaxis following the operation, about six weeks ago.

Dr. Kelly also exhibited fresh large cystic ovaries and tubes of a large fibro-cystic tumor upon which he had operated that morning. The ovaries were sessile, surrounded by a congeries of great dilated vessels. The operation was one of extreme difficulty. (*Note five days after operation:* "The patient's condition is perfect.")

The patient, whose history was read at the preceding meeting, who had ovaries and tubes removed for chronic subinvolution and endometritis, was presented to the meeting. She had lost all pain and felt perfectly well for the first time in years. The uterus was normal.

Dr. Parish reported a Porro-Müller operation.

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of December 17, 1886.

Dr. Andrew H. Smith, Chairman.

(From notes furnished by Dr. S. E. Post.)

Artificial Alimentation.—A paper on this subject was read by Dr. G. D. Hays. [See page 121.]

Dr. R. W. Wilcox called attention to one method of artificial feeding: Super-alimentation by means of the stomach-tube. During 1882 he had abundant opportunity to observe the results of this treatment in cases of wasting disease, notably pulmonary consumption, at the St.-Antoine, in the clinic of Dr. Dujardin-Beaumetz. The results obtained were so striking that he procured a supply of tubes before leaving Paris, and as opportunity presented he had made use of them. He had also noted the literature of the subject, especially the observations of Debove, Dujardin-Beaumetz, Peiper, Broca, Farrand, Vortoff, Schreiber, Wins, Pennel, Amanieux, Robin, Mesnet, Kurloff, and the few articles that had appeared in American literature.

To carry out this method, a tube similar to the one shown, a pitcher holding two quarts, a common eight-ounce funnel, a bottle of glycerin, and a receptacle for waste water, were all the necessary articles. The tube was coiled in the pitcher, which should be nearly filled with water at a temperature of 100° F. for a few moments until it was warmed; it was then coated with glycerin over its proximal half by passing the tube rapidly against the inclined glycerin-bottle. To introduce the tube, the physician, standing in front of his seated patient, placed his left index-finger in the mouth as a guide; the tube was inserted and carried backward until the posterior wall of the pharynx was reached, when a slight rotation with advancement carried it into the œsophagus and stomach. The funnel was then inserted into the distal end of the tube, this end raised a little above the patient's head, and the water poured rapidly in until the stomach was fully distended. Then, the tube being pinched with the left thumb and forefinger, which had been keeping the tube in place in the same way that a Eustachian catheter was retained, the funnel was lowered until the return current began to flow into the receptacle and the stomach was entirely emptied. In treating stomach catarrhs, dyspepsias, and vomiting, it was well next to rinse out the stomach with Vichy, using an artificial Vichy, or, as had been the speaker's practice during the last two years, with a solution of bicarbonate of sodium, seventy-five grains to the quart. Lavage was here mentioned, because in so many instances it was a necessary preliminary to successful gavage or super-alimentation by the stomach-tube. The earlier workers had found much difficulty in obtaining a suitably concentrated food that would flow readily through the tube. Debove, however, had remedied this, and to-day the method was perfect. The meat powder of Debove was prepared as follows: The muscular fiber, freed from fat, tendon, and blood-vessels, was finely minced, then thoroughly desiccated upon plates in an oven kept at a temperature of 220° to 230° F.; next it was triturated in a mortar until it could be passed through a very fine sieve; thus prepared, it would mix readily with water, milk, or eggs. Six pounds of the best steak would yield but one pound of this powder. It was simply beef minus the water, and bore favorable contrast with the extracts, juices, and teas, which contained only the soluble salts and extractives. Unlike all raw preparations, there was no danger of producing tænias; sometimes, when water was used as a vehicle, it was well to add to each ounce five drops of the strong hydrochloric acid.

At the outset of this treatment an ounce of meat powder with a pint of milk was sufficient. This should be rapidly increased until a daily dose of ten to twenty ounces of meat powder—the latter quantity representing five pounds of beef, two to three quarts of milk, and five or six eggs—was reached. No matter what pathological theories one might hold concerning pulmonary consumption, it was known that bacilli did not thrive nor tissues break down if the patient could be sufficiently nourished.

The advantages of this method were that there existed an independence of the patient's appetite or caprices, of laryngeal tuberculosis, of dyspepsia, and of vomiting, even when produced by cough. The results were cessation of night-sweating, diminution of cough and expectoration, and gain in strength and weight. Fever was a contra-indication, but did not preclude the use of the tube.

This method caused much trouble in the preparation of the meat powder, as it could not always be purchased, and even then it was expensive, but with care it could be prepared in the house. The most striking published results were those of Peiper, who had treated fourteen patients with phthisis, twelve of whom had gained from five to twenty-two pounds in weight; in three cases the sweating had ceased, in five it had been relieved, in all cough and expectoration had diminished. Unfortunately, the observations had not been continued so long as could have been desired. Although the speaker had carried this treatment out in but few cases, yet he was prepared to indorse even the enthusiasm of Peiper, and he felt sure that any member of the society would achieve brilliant results if he would faithfully carry out this method.

The other conditions in which gavage had been successfully employed had been convalescence from hæmorrhages and severe illnesses, chlorosis, vomiting of pregnancy, chronic diarrhœas, debilitating nervous diseases, and hysteria, even when marked by gastralgia and vomiting. In the last instance he had obtained brilliant moral and physical results.

In diseases of the stomach, aside from the opportunity for local treatment, the general malnutrition had been improved by lavage and gavage.

Dr. Abbott asked why the vomiting from coughing did not occur after feeding with the tube, as well as when food was taken naturally.

Dr. WILCOX did not know why this was so, but the fact had been established.

Dr. KEARNEY stated that he had understood Dr. Wilcox to say that in no case had vomiting occurred after feeding with the tube.

Dr. WILCOX replied that in his experience this was true.

Dr. KEARNEY inquired in regard to the effect that this method of feeding had upon the vomiting from phthisis, which usually occurred about an hour or two after meals.

Dr. WILCOX could furnish no information on this point.

Dr. ABBOTT asked whether the introduction of the tube did not cause retching.

Dr. WILCOX replied that, as a rule, the first attempt always made the patient vomit, but that he had never failed in introducing it from this cause. The tube struck the posterior wall of the pharynx and incited the patient to vomit, but by this effort the larynx was elevated so as to facilitate the introduction of the tube. By a slight rotatory movement it passed easily downward and into the stomach before the patient knew what was being done. Sometimes the patient vomited up the tube, but usually upon the third or fourth occasion he was able to introduce it himself. A patient suffering from chronic catarrh was thus able to irrigate his own stomach when required. The siphon contrasted favorably with any pump in its action, and the speaker had seen a number of different varieties used.

Dr. ABBOTT thought that there was, as a rule, some difficulty connected with the first introduction, but that, if it was persisted in, this difficulty would finally be overcome.

Dr. WILCOX stated that he always took the precaution of making the first introduction of the tube at the patient's house.

Dr. CROOK asked whether any of the gentlemen had had experience with the method of continuous rectal alimentation. He had found it mentioned in a medical paper a few days before.

The CHAIRMAN asked Dr. Crook what was meant by "continuous rectal alimentation."

Dr. CROOK replied that the food was placed in a vessel at a proper height above the patient, and was introduced gradually into the rectum through a tube as fast as it became absorbed. One pint of milk had in this way been introduced and absorbed in three hours. The method seemed worthy of trial.

Dr. ABBOTT stated that when nutritive enemata were not retained, it was the custom, at the Nursery and Child's Hospital, to introduce a catheter well up into the rectum, when it was found that the injection could be made and retained without difficulty. For a stomach-tube for infants, an ordinary soft catheter and an ear-syringe were used.

Dr. WILCOX reminded the previous speaker that there was a tube made expressly for the purpose he had mentioned. It was not so soft as the soft catheter, nor so stiff as the hard catheter. One could often succeed in having a rectal injection retained by using this tube when the syringe had proved to be useless.

Dr. WILLIAM H. PORTER had had no experience with continuous rectal alimentation. He had nourished a patient by rectal alimentation with the ordinary syringe for five months, and had kept him in a fair condition by injecting milk and beef-tea at regular intervals. The patient had died from gangrene of the lungs. The speaker thought Dr. Dana's experiments interesting in this connection. By a reversed peristalsis the food introduced by rectal injection was carried into the small intestine, and, in the case of a dog, even into the stomach. With a little care, the ordinary syringe was sufficient. In the case referred to, a post-mortem examination of the rectum had shown nothing abnormal; no ulceration nor other disease such as had been said to follow long-continued rectal feeding. As this was a case of cancerous stricture of the œsophagus, the patient, suffering part of the time from acute cystitis, and finally dying from gangrene of the lung, would have been as likely as other persons to show this change. On the contrary, his rectum was normal, and he was in a fairly well nourished condition when he died.

The CHAIRMAN asked what form of food was used.

Dr. PORTER replied that he had used simply milk and beef-tea.

Dr. KEARNEY had had a case of cancer of the pylorus in 1876 in which he had kept the patient alive for three months on beef-tea and milk, with the addition of brandy or whisky and water, administered by the rectum. He had not examined the rectum for any change, but he was inclined to think that no change had been present. There had been no complaints about the injections, and no tenesmus had followed them. The speaker desired to ask Dr. Wilcox whether he had ever introduced medicines through the tube.

Dr. WILCOX had first used the artificial Vichy for injection, but had subsequently used simply a solution of bicarbonate of sodium for washing the stomach out. In giving the food he sometimes omitted the milk, and added five drops of strong hydrochloric acid to a pint of the preparation. He had seen all sorts of substances used, but had found only those he had named to be necessary.

Dr. NILSEN had used for a rectal injection milk and eggs, with pepsin, a few drops of laudanum, and dilute hydrochloric acid. His method of preparation was to add to a cup of milk the yolk of one egg. His syringe had a capacity of two ounces. He added to this amount ten grains of pepsin and ten drops of dilute muriatic acid. He first drew the fluid into the syringe, then put the acid and the pepsin into a cup, and subsequently emptied the syringe into the cup, rapidly filling and emptying it three or four times before using it. The results had been satisfactory. He had nourished one patient in this manner for two months and a half. At the expiration of this time the stomach resumed its normal function.

Dr. HAYS asked whether starches should be given in fevers, and whether the artificial digestive ferments had much value, and also whether feeding was required in febrile states. Recently a physician had ordered his own treatment during typhoid fever, and had abstained from food until his appetite had returned. He had ascribed his recovery to this fact.

Dr. C. H. BROWN inquired particularly in regard to bovinine. This was a preparation of defibrinated blood, to which a small quantity of egg albumin was added to take the place of the fibrin which had been removed.

Dr. NILSEN had used bovinine in a number of cases. It was difficult to get patients to take it; they would become disgusted with it in the course of a few days. He thought that they lost ground when using it. It was very disagreeable to take.

Dr. PORTER considered bovinine one of the best artificial foods in the market—the only one which completely filled the indications. It consisted only of ordinary blood with sufficient whisky added to it to keep it from spoiling. It was soluble and easily digested. The principal trouble he had had with it had been connected with its color. When added to milk, it was taken very well. The starches and sugars were simply heat and energy producers. They should be excluded from the dietary in fever. The speaker had used skimmed milk quite extensively in fever for the albumin which it contained. Starch and sugar were assimilated in the liver, and, as they were transformed more easily than albumin, the liver acted upon them first, and the albumin consequently was not affected until the cells had become tired out, and hence they were but partially metabolized, and much effete matter was the result. The speaker used albumin, and albumin only, in cases of fever. He thought that patients thus affected were more often overfed than underfed. By overfeeding, fuel was added to the fire, and poison to the system.

Dr. Abbott stated that at the Nursery and Child's Hospital they had used cod-liver oil hypodermically. He inquired whether Dr. Hays had had any experience with this method of treatment.

Dr. Hays had tried the method, but without result. Inunctions of fats, as pointed out by Dr. Leaming, would lower the temperature the same as baths would. The butter of cocoa was most commonly used. Probably some of it was absorbed.

Dr. Crook asked what the previous speaker's objection was to giving cod-liver oil immediately after meals in the usual way; why he gave it between meals?

Dr. Hays replied that he did it for the reason that the oil was digested in the small intestine. After a meal the albuminoids remained in the stomach until they were changed to peptones, and the fat floated around on top of them, was decomposed and caused eructations, thus augmenting the patient's dislike for it. On the contrary, when given after the stomach was emptied, the fat passed immediately into the small intestine. Copaiba and cubebs were for the same reason given two hours after meals.

Dr. Brown returned to the subject of bovinine. He had tried it shortly after its introduction, and had had no trouble except in sensitive women, who could not overcome their repugnance to its color and flat taste. Lately he had used it in two cases of typhoid fever. These patients were given scarcely any other food, and they had passed through the disease with less disturbance from fermentation than was usually the case. He thought a simple albuminous diet preferable in fever cases. He asked the opinion of the society in regard to blood itself in the forced alimentation of phthisical subjects. He had given it to a number of patients. One patient had for three months gone to the slaughter-house and taken three fourths of a gobletful of blood each morning. During the three months she had gained twenty-five pounds. Either the walk or the blood had evidently benefited her. All of the patients had been more or less benefited, but they would get tired of going and would give it up. The speaker thought that bovinine, next to blood, was most useful in the treatment of phthisis.

The Chairman thought that the tendency was to push feeding more than was necessary and burden the system to get rid of this superfluous material. He preferred animal food because it was the nearest in composition to the tissues of which it was to become a part. He preferred to leave the work of assimilation as much as possible to the chicken, or the ox, or the sheep; and to take the food as they had prepared it. The absence of vomiting after feeding with the tube in phthisis might be due to improved digestion in these cases. The cough which came on one or two hours after eating in phthisis was probably reflex and excited by difficulty in digesting the food previously taken. The cough irritated the fauces and vomiting resulted.

One point had not been brought out, and that was that, in improving the stomach digestion, work was required of the stomach without giving it material to work upon. The stomach must manufacture nutriment, not only for the rest of the body, but for its own activity also. Figuratively speaking, the patient must lift himself over the fence by the straps of his boots. The speaker thought that rectal feeding could not be too highly recommended in such cases. By improving the quality of the blood and giving the stomach a little rest, it enabled it to recuperate and subsequently to return to work. The speaker considered defibrinated blood to be the best substance for rectal injection. It required but little change in order to become part of the human blood. Not only the liquor sanguinis, but also the corpuscles were speedily taken up. The speaker did not mean that they were absorbed as corpuscles, but that they disappeared. If three ounces were given at night, not a trace of the injected blood could be found in the morning, when the patient would have a healthy yellow or brown stool. He thought that the injected material was carried a considerable distance up the bowel. In a case of sudden death three hours after a rectal injection he had found the whole length of the colon coated with the injected material; and it was not uncommon after such an injection to hear a gurgle when the patient was conscious that something was passing upward. The speaker had experienced this sensation in his own person.

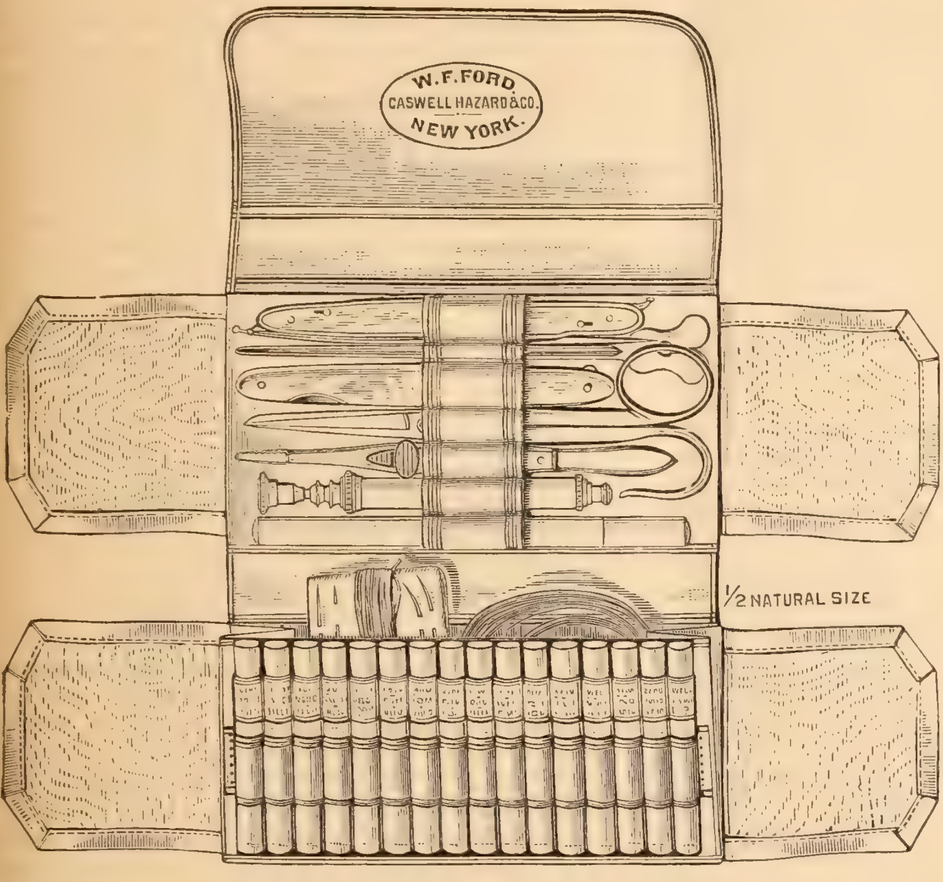
After a good deal of experience in using the tube, he thought that there was no insurmountable difficulty about its introduction. The patients rarely made any objection after the first one or two times.

Dr. Hays had not intended to speak of any particular foods, and hence had not mentioned bovinine; but, since the subject had been brought up, he would say that in his opinion Valentine's beef extract was the most valuable preparation of beef which we had; but, as two bottles a day were required, and it was sold at $1 a bottle, the expense put it out of the reach of many patients. He had taken bovinine himself for two days, during which time he had fasted from other food. He had experienced complete satisfaction from its use, although engaged in hard labor during the period. It was not obnoxious in taste. It had no taste, or, as Dr. Brown said, the taste of blood. As to the objection that uncooked foods favored the introduction of parasites into the system, a European commission had decided that from beef this danger was almost *nil*. It had been stated that, in order to rest the stomach, rectal alimentation must be employed. If food was properly peptonized, so that absorption only was necessary, just as desirable a rest would be obtained. With lavage he had had three years' experience. He thought it particularly successful with hysterical subjects. In the case of a girl with gastro-intestinal catarrh and hæmatemesis, after the first washing food had been retained. In a case of carcinoma ventriculi, thus diagnosticated by Professor Loomis, he had used the tube. He had had no difficulty in its insertion without using the finger; but in this case a large quantity of matter had been vomited, not through the tube, but outside of the tube. This had occurred a number of times. Now, however, the return only occurred through the tube. The speaker, however, never had seen mucus brought out by the tube.

Dr. Wilcox thought that if the previous speaker had had his finger between the patient's teeth, he would have found a reason why the fluid was vomited outside of the tube.

An Irrigating Curette.—Dr. Abbott presented a curette combined with an irrigating apparatus. It was manufactured by Tiemann & Co. He used a pitcher and a Davidson syringe for the inlet tube, while the exit-tube was carried down to the floor. This gave a certain amount of a siphon-power which made the flow continuous. Ordinarily it had been necessary to remove the curette in order to introduce the irrigating-tube. The operation was thus prolonged, while the disinfection was not so perfect as where everything was carried immediately away.

The Practitioner's Pocket Case.—Dr. Wilcox exhibited a pocket-case which he had arranged. As the result of nearly four years' experience in its use, it was believed that the articles were all that were essential for completeness, and at the same time were as few in number as was consistent with the needs of daily practice. Although it comprised the necessary implements of the ordinary pocket surgical-case, the hypodermic syringe, with phials of tablets, and the thermometer, it occupied no more space than the usual two-fold case, besides presenting the additional advantages that all the articles were in one case, thus avoiding the liability of omissions and as well obtaining immunity against breakage. The soft-rubber catheter was purposely omitted because it would tarnish the instruments if carried in the same case.



The case and the hypodermic tablets, which had been found to be always reliable as to strength and solubility, were manufactured by Messrs. Caswell, Hazard, & Co., from whom they might be procured. Every effort had been made that this case should be exactly what its name signified.

Book Notices.

Rome in Winter, and the Tuscan Hills in Summer. A Contribution to the Climate of Italy. By David Young, M. C., M. B., M. D., etc. London: H. K. Lewis, 1886. Pp. xv–288.

This is a most interesting work. The body of the book is devoted to a study of the sanitary conditions, past and present, in the city of Rome and the Campagna, which have given the city hitherto an unenviable reputation for health and even personal safety. The so-called Roman fever is fully described. It is essentially typhoid, with possibly a virulent malarial element superadded. It is compared in symptoms and lesions to the fever prevalent in the early period of our civil war, and described by the late Dr. Woodward. Professor Bucelli, of Rome, has designated it a sub-continued fever. As to its prevalence and fatality, Dr. Young shows by statistics that there are not more deaths by this Roman typhoid fever in Rome, in proportion to population, than in Paris, Berlin, or other continental capitals. But the large number of distinguished visitors to Rome renders the individual cases conspicuous. Dr. Young ascribes this fever chiefly to impure or polluted drinking-water and the foul waters of the Tiber. Purification of the water-supply and the removal of the sewage far out of and beyond the city limits by new conduits in embankments, similar to those of London, give promise of an uncontaminated Tiber and the best sanitation.

The malarial fever of the Campagna is next considered. The author states that the Romans drive and walk in the Campagna with the freedom and pleasure which we derive from our Central Park, despite Hawthorne's assertion that "fever walks arm in arm with us, and death awaits us at the end of our walk" without the Roman gates. Rome has a population of 310,000; the Campagna is inhabited annually by 42,000 peasants who come down from the interior hills to tend their herds on the fertile plain. Of these herdsmen, the majority live in abject squalor, and an average of 10 per cent. die. The herds do not suffer from malaria, and the planting of the eucalyptus around many of the colonies of shepherds has already modified their liability to pernicious malarial disease. Of over 800 deaths from malarial fever in the great hospitals of Rome, more than half were contributed by the peasants of the Campagna, with its population of about one eighth that of the city. The average temperature of Rome for a number of years has been 45·3° F.—average summer heat, 74·5° F.; the highest in summer, 98·2° F.; the lowest in winter, 21·2° F. The brief closing chapters on the Tuscan Hills and the various summer resorts of the coast and interior of Italy are of little relative or scientific value, although the author's beauty of diction and fondness for classical and historic reminiscence make the reading most enjoyable. Dr. Young speaks of the "intensity of all vital processes" in Italy. Acute diseases prevail rather than chronic—a statement of interest at least to hospital physicians in our own and other eastern cities, who must have noticed the unusual frequency of acute miliary tuberculosis, pulmonary, cerebral, and abdominal, in our Italian population.

Dr. Young has been a careful student of the general subject of climatology, especially as relating to phthisis pulmonalis. He regards the coldness and dryness of the air of great altitudes as more destructive to bacilli or other microbes than any antiseptic influence of chlorine and bromine in the air of the seacoast. Bacilli are absent, as shown in the tables of M. Miguel, in air above a level of 2,000 metres, whereas in the city abodes, as in different parts of Paris, they were present in variable number, from 600 to 35,000 to the cubic metre of atmosphere.

El Cólera en Valencia en 1885. Memoria acerca de los trabajos realizados durante la epidemia. Presentada por la Alcaldia al Excmo. Ayuntamiento en nombre de la Junta Municipal de Sanidad. Valencia: Manuel Aluire, 1886. Pp. 8–11 to 180.

This elaborate report contains much matter of interest to the epidemiologist, giving careful consideration to all the circumstances attending an epidemic of cholera which during the summer of 1885 caused 4,919 deaths in an estimated population of 170,000. The observations recorded cover almost the entire range of atmospheric and telluric phenomena, including even the variations of atmospheric electricity and microscopic examinations of the air. Few of these, however, seemed to bear a definite relation to the spread of the disease. Thermometric changes were apparently without influence, except as regarded the temperature of the soil, taken at four decimetres below the surface; when this was low, the malady did not show much virulence, but with its ascent toward 33° C. the epidemic period began. A further elevation of ten degrees was on several occasions accompanied by a temporary abatement of the epidemic. The amount of ozone was least on the days of greatest mortality. The most notable coincidence was between the lowering of the level of the ground-water and the increase of the algid form of the disorder.

A chapter is devoted to Ferrán's inoculations, which, in the light of impartially stated evidence, make a decidedly unfavorable impression. Out of probably about 5,000 persons of the well-to-do class who had undergone inoculation, 54 deaths from cholera are recorded—a ratio not less than that among the uninoculated of the same class. Furthermore, some physicians noticed that, while the disease in the poorer portion of the population could be traced to transmission from pre-existent cases, new cases, not thus explicable, arose among those of higher social position who had been inoculated. A striking instance recited is that of an inoculated man and his wife who went to a place in Burgos in which no cholera had occurred. After ten days the wife was attacked with cholera, which ended fatally. No other cases happened in the neighborhood then or subsequently. The conclusion drawn from the attainable facts is that, although in many instances the fluid injected by the "Ferránists" simply induces putrid infection, in others there is a survival of a sufficient number of specific germs to multiply and resume their virulence in the "vaccinated" system.

A detailed description is given of the hospital provisions adopted, and of the measures for isolation, disinfection, and medical inspection, with full statistical tables and graphic charts.

The Surgical Diseases of Children. By Edmund Owen, M. B., F. R. C. S., Surgeon to the Hospital for Sick Children, Great Ormond Street, London, etc. Illustrated with Four Chromolithographs and Eighty-five Engravings. Philadelphia: Lea Brothers & Co., 1886. Pp. x–518. [Price, $2.]

The position so long held by Mr. Owen as surgeon to the Hospital for Sick Children, and his well-known abilities as a writer, would seem to fit him in a special manner to write a work on the surgical diseases of children. The volume is divided into thirty-five chapters, and is illustrated with four chromo-lithographs and eighty-five wood-engravings.

The author has not, we are sorry to say, produced a very satisfactory work. The size of the volume is altogether too small to treat in a thorough manner the many subjects crowded into its pages. Better to have omitted much and to have treated fully what remained, than to have written a book like the one we are considering. A few of the chapters are clear and full, while the remainder are sketchy, and convey to the reader but little information that can not be obtained in any good work on surgery. We find some statements that, to say the least, are rather sweeping. Thus, in speaking of syphilis in children, the author states that an eczema extending up on the abdomen, above the diaper, is specific. Deviations of the nasal septum are alluded to, with the statement that "slight redundancy of the cartilage may be treated by an instrument like a leather-punch." This is certainly bad surgery, and will accomplish no good.

The article upon caries of the spine is good, although rather brief. The auther speaks well of opening spinal abscesses in the lumbar region, and mentions one case in which several sequestra were found in the cavity of the abscess.

The chapters on disease of bones, including joint troubles, are the best in the volume. In regard to excision of the hip joint, it is stated that "each case must be treated upon its merits, and no array of figures as to the results of excision should influence the question," a statement with which we entirely agree. In regard to disease of the tarsal bones, he advocates the expectant treatment. This, it seems to us, is a mistake. Excision of these bones, when diseased, gives excellent results, and should be performed early.

Space does not permit of a more thorough notice of this volume. The objection to the book is, that the author has been compelled to condense his work into so small a compass that he has treated most of the diseases of children in a too sketchy manner. We hope that at some early day he will write a more comprehensive work on this subject, and not put it in the form of a so-called "manual."

A Manual of Surgery. In Treatises by Various Authors. In three volumes, edited by Frederick Treves, F. R. C. S., Surgeon to and Lecturer on Anatomy at the London Hospital. Vol. I, General Surgical Affections, The Blood-vessels, The Nerves, The Skin. Vol. II, The Thorax, The Organs of Digestion, The Genito-urinary Organs. Vol. III, The Organs of Locomotion and of Special Sense, The Respiratory Passages, The Head, The Spine. Duodecimos, 1866 pages, 213 engravings. Philadelphia: Lea Brothers & Co., 1886. [Price, cloth, $2 a volume.]

The volumes of which this manual is composed are edited by one of the best-known writers on modern surgery, and form one of a series of manuals. Among its compilers are found the names of the leading surgeons of England, and their contributions relate to those subjects on which they are peculiarly competent to speak from their study and experience. The plan of the work resembles that of the systems of medicine and surgery which have been issued within the last ten years.

The editor in his preface states "that it is hoped that this work will present to the student and practitioner a concise account of the leading facts and principles of modern surgery; that the volumes of which it is composed are concerned, namely, with the clinical, diagnostic, and therapeutical aspects of surgery. . . . The general principles of surgery are dealt with, but the technical details of the various procedures are omitted, with the exception of such as concern what may be termed special operations."

From the very nature of the book the various chapters are not equal. Some of them are excellent, while in others the omissions, due to the necessity of condensation, are so many as to detract much from their value. It is a serious question whether it is possible to condense into such a small space so much ground as has been attempted in this work without sacrificing too much. There is much of useful and very valuable information, but one can not but feel disappointed that the different writers were not allowed more space, so that some specific details in regard to special treatment might have been added. Thus, special instructions are given only for tracheotomy, gastrotomy, nephrectomy, and ovariotomy, but plastic operations, ligature of arteries, and excisions are not specially described. The general practitioner will find, we fear, too little information. We trust that another edition of this work will be called for, and that these omissions will be supplied; it will then form an excellent and useful manual, and one worthy of the editor and those who have co-operated with him.

BOOKS AND PAMPHLETS RECEIVED.

The National Dispensatory, containing the Natural History, Chemistry, Pharmacy, Actions, and Uses of Medicines, including those recognized in the Pharmacopœias of the United States, Great Britain, and Germany, with Numerous References to the French Codex. By Alfred Stillé, M. D., LL. D., Professor Emeritus of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, and John M. Maisch, Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Fourth Edition, revised and improved, with Three Hundred and Eleven Illustrations. Philadelphia: Henry C. Lea's Son & Co., 1886. Pp. xiv–1781.

The Principles and Practice of Operative Surgery. By Stephen Smith, A. M., M. D., Professor of Clinical Surgery in the University of the City of New York; Surgeon to the Bellevue and St. Vincent's Hospitals, New York, etc. New and thoroughly revised edition. Illustrated with One Thousand and Five Wood-cuts. Philadelphia: Lea Brothers & Co., 1887. Pp. xxxii–17 to 877.

Clinical Manual for the Study of Medical Cases. Edited by James Finlayson, M. D., Physician and Lecturer on Clinical Medicine in the Glasgow Western Infirmary, etc. Second Edition, revised and enlarged. With One Hundred and Fifty-eight Illustrations. Philadelphia: Lea Brothers & Co., 1886. Pp. xii–13 to 683.

Miscellany.

The New York Academy of Medicine.—At the next meeting of the Section in Neurology, Friday evening, the 11th inst., Dr. J. West Roosevelt will present a case of "Peculiar Stab-Wound of the Spinal Cord," and Dr. Samuel Ketch will read a paper entitled "Neuromimesis of Deformities."

At the meeting of the Section in Surgery, Monday evening, the 14th inst., Dr. Joseph D. Bryant will read a paper entitled "Modern Dilatation of a Urethral Stricture followed by Abscesses of the Trunk and Limbs."

At the meeting of the Section in Theory and Practice of Medicine, Tuesday evening, the 15th inst., Dr. W. H. Porter will read a paper on "Syphilis in relation to Visceral Lesions as a Causative Agent, but especially in relation to Phthisis."

Dr. N. S. Davis.—A contributor to the "Journal of the American Medical Association" thus alludes to the recent commemoration of Dr. Davis's completion of the period of fifty years as a physician:

"On Thursday, January 20th, the fiftieth anniversary of the entrance of Dr. N. S. Davis into the medical profession, he was presented by the students of the Chicago Medical College with a magnificent arm-chair, and a valuable and beautiful revolving set of reference shelves. The presentation was made by Professor W. W. Jaggard, in behalf of the students, and Dr. Davis responded in a most graceful manner. It has been but a few weeks since Dr. Davis's seventieth birthday was celebrated at his house by a large number of his friends.

"It is peculiarly fitting that the students of the college of which Dr. Davis is practically the founder, the college which represents the principles of higher medical education for which he did so much before its foundation, and has done so much since, should have taken some note of his fiftieth birthday into the profession. Indeed, the American Medical Association is the outgrowth of Dr. Davis's earnest endeavor to raise the standard of medical education in this country."

Laryngology at the College of Physicians and Surgeons.—Dr. Lefferts's next lecture, on Tuesday, the 8th inst., at 2 P. M., will be on nervo-muscular and sensory affections of the larynx and neuroses of motion.

The Abuse of Medical Charity.—It is stated that, a few days since, a woman dressed in rags applied at the Boston City Hospital for surgical treatment for a scalp wound. The customary search of her person revealed several bank-books, representing \$7,100 in Boston banks, \$1,000 in bonds, and about \$300 in cash—all hidden among her clothing.

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending January 27th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending January 8, 1887, correspond to an annual death rate of 26·5 in a thousand of aggregate population. The lowest death rate was recorded at Sunderland, 15·7 in a thousand, and the highest in Manchester, 36 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending January 8th was 29·9 in a thousand of estimated population. The lowest mortality was recorded in Leith, viz., 18·7 in a thousand, and the highest in Paisley, viz., 40·2 in a thousand.

London.—There were 2,127 deaths registered in London during the week ending January 8th, including 104 from measles, 11 from scarlet fever, 9 from diphtheria, 17 from whooping-cough, 15 from enteric fever, 2 from ill-defined forms of continued fever, and 10 from diarrhœa and dysentery.

Calcutta.—There were 328 deaths registered during the week ending December 11th, including 94 from cholera, 84 from fevers, 33 from bowel complaints, 23 from tetanus, 14 from phthisis, 8 from asthma, and 6 from spleen diseases.

Buenos Ayres.—The United States minister, under date of December 3, 1886, dispatches that the situation is not alarming at present, but says:

"There is no room for doubt as to the existence of Asiatic cholera here. It made its first appearance about five weeks ago, and was imported by the Italian ship Perseo, plying between Genoa and Buenos Ayres. Dr. Antonio del Veso, envoy extraordinary and minister plenipotentiary of the Argentine Government in Italy, was a passenger on the ship, and the anxiety to secure him an immediate landing on the part of the ship's commander seems to have so far overcome his sense of duty that, by concealed or garbled reports, he managed to turn loose, on Argentine soil, first here, then at Rosario, a great many persons from an infected ship. The testimony of passengers shows conclusively there was nearly a score of burials at sea of those who died of cholera on the voyage. The Argentine Government instituted prompt investigation of the matter, but, wasting no time with the infliction of empty penalties which can not affect the disease, turned its entire care to its arrest and confinement within its present limits. Dr. Wilds, the Minister of the Interior, and as such Prime Minister of the Government, from whose department the National Board of Health derives all its powers and efficiency, is himself a physician of much distinction, and has labored with heroic devotion in the employment of every agency tending to the rapid and complete accomplishment of his sanitary measures. He has at his disposal money, physicians, and police powers almost without limit, and is employing them all with great spirit and ability. The exercise of sanitary measures has been so prompt and efficient, and the use of disinfectants and enforced cleanliness so well spread and rational, we venture to hope the disease will disappear before assuming an epidemic character. The people generally fully sympathize with the good intentions of the Government, and, instead of interposing hindrances in the way of its sanitary plans, help them on in every possible way. For the month of November just closed the official reports of the cholera hospital in Buenos Ayres show there were 200 patients entered—93 deaths, 34 cured, with 73 still under treatment. Remembering the population of Buenos Ayres is fully 400,000, you will agree the showing thus far is not discouraging. And with the exercise of a little scrutiny even the exhibit may be much relieved of alarm, for of the 200 patients above enumerated, 130 were from the male and female lunatic asylum and 12 from the prisons, where people are greatly huddled together and hygienic conditions anything but favorable. This, then, leaves but 58 cases outside for an entire month. The greater part of the cases have originated in the 'boca' where the infected ship Perseo landed, which is a scooped-out place, so deep and below the level of the river Platte that ships may enter and discharge. It is, therefore, necessarily a vast receptacle of filth, and, there being no current to carry out its accumulations into the river beyond the sluggish action of the tide, it remains there a perpetual cesspool charged with disease and death. The Government, however, is already busy at work there with an immense force, devising means to sweeten its baleful waters by the use of powerful pumps and dredges. The disease is most fatal at Rosario, a city of commercial importance on the Pasaka River, two hundred miles away, where the most of the Perseo's passengers and cargo were discharged. The reports from that locality are truly distressing. In a population of about 50,000 souls they are now having from 35 to 50 deaths per day. In their cholera hospital alone there were over 200 patients in November, of which more than one half died; but there the disease has invaded the homes of the best and most prudent families of the city. Cordoba and other inland cities are also becoming infected. The result of all this is, we are nearly cut out entirely from the commercial world. Uruguay, Brazil, Paraguay, and most of the European ports are quarantined against us, which fact has greatly disturbed the movements of the mails, and almost entirely suspended business. We have recently had some very cold weather, which has been favorable to us. Nineteen years ago yesterday the first case of the great cholera epidemic of 1867–'68 was reported. Then the plague was mainly confined to city and neighboring country of Buenos Ayres. It was very destructive, and did not die out until near the close of March, on the advent of winter. Of course, we are still in a state of anxious suspense, for if the hygienic expedients now in a rapid course of development do not eradicate the dreaded microbes of the plague, the hot season already upon us, and to endure it yet so long, may plunge us into very serious distress. Business is virtually suspended in Buenos Ayres, and vast numbers of people have gone out into the country."

The United States consul at Buenos Ayres, under date of December 10th, states that "while a few cases of cholera are still reported in each day's bulletin, the disease appears to have pretty much run its course at this port. On yesterday, up to ten o'clock, only one new case had occurred in the city proper, and 2 cases on board a steamer at Boca port. In the interior of the country, however, the disease has made its appearance, and in some places with a marked type. On the 4th instant there were 13 deaths at Rosario and 14 new cases, and at Cordoba 2 deaths and 5 new cases. Isolated cases are reported at various other interior towns. The alarm, however, which was produced among the people when the disease first appeared at this port has in great part subsided, and the authorities feel assured that the prompt and rigid measures taken to stamp it out will prevent it from becoming epidemic. In all bills of health now issued by me I note the fact that cholera exists in this port, but apparently not in epidemic form."

Guayaquil, Ecuador.—During the three weeks ending January 6th there were 159 deaths from all causes, including 32 from yellow fever, 12 from small-pox, and 21 from enteric fever. There were 58 deaths registered during the week ending January 6th, including 16 from yellow fever and 3 from small-pox.

Havana.—During the week ending January 13th there were 103 deaths from all causes, including 1 from yellow fever.

Warsaw.—There were 243 deaths registered during the week ending January 1st, including 6 from small-pox.

Paris.—There were 1,116 deaths registered during the week ending January 8th, including 51 from measles, 12 from whooping-cough, 23 from enteric fever, 5 from scarlet fever, and 44 from diphtheria.

Rome.—There were 127 deaths registered during the week ending November 27, 1886, including 9 from small-pox, 2 from enteric fever, and 5 from diphtheria.

Genoa.—There were 124 deaths registered during the week ending January 28th, including 2 from small-pox and 1 from enteric fever.

Leghorn.—There were 51 deaths registered during the week ending January 9th, including 1 from small-pox.

Palermo.—There were 93 deaths registered during the week ending January 8th, including 2 from enteric fever, 3 from scarlet fever, and 3 from diphtheria. Pulmonary diseases prevailed.

Bremen.—There were 38 deaths registered during the week ending January 1st, including 1 from diphtheria, 1 from whooping-cough, 4 from pneumonia, and 1 suicide.

Barmen.—There were 59 deaths registered during the week ending January 8th, including 6 from measles, 1 from diphtheria, and 1 suicide.

Stuttgart.—There were 34 deaths registered during the week ending January 8th, including 1 from diphtheria.

Leipsic.—There were 90 deaths registered during the week ending January 8th, including 2 from measles, 1 from scarlet fever, 9 from diphtheria, and 1 suicide.

Bristol.—There were 97 deaths registered during the week ending January 1st, including 3 from scarlet fever and 1 from diphtheria.

Leith.—There were 25 deaths registered during the week ending January 1st, including 1 from enteric fever and 1 from diphtheria.

Vera Cruz.—There were 21 deaths registered during the week ending January 13th, including 11 from diphtheria.

Toronto.—There were 26 deaths registered during the week ending January 22d, including 3 from diphtheria.

Belfast.—There were 136 deaths registered during the week ending January 1st, including 2 from enteric fever and 4 from scarlet fever.

Rheims.—There were 58 deaths registered during the week ending January 8th, including 1 from enteric fever and 1 from diphtheria.

Nice.—During the two weeks ending December 31st there were 131 deaths from all causes, including 6 from small-pox.

Amsterdam.—During the week ending January 1st there were 173 deaths from all causes, including 1 from enteric fever, 2 from scarlet fever, and 2 from diphtheria.

Glasgow.—During the week ending January 1st there were 330 deaths from all causes, including 3 from enteric fever and 6 from scarlet fever.

Netherlands.—The United States Minister at the Hague, under date of January 20, 1887, states that the Netherlands Government has issued an order closing its ports to commerce from the Argentine Republic on account of cholera.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Estimated population.	Week ending—	Total deaths from all causes.	Annual rate of mortality in 1,000.
Calcutta	433,219	December 11.	328	39·4
Warsaw	431,572	January 1.	243	29·3
Havana	208,000	January 13.	103	25·8
Guayaquil	25,000	January 6.	58	120·9
Paris	2,260,045	January 8.	1,116	25·7
Rome	355,026	November 27.	127	18·6
Genoa	179,567	January 8.	124	36·0
Leghorn	101,044	January 9.	51	26·3
Palermo	250,000	January 8.	93	19·3
Mayence	*65,701	December 31.	15	13·2
Bremen	119,000	January 1.	38	16·6
Mannheim	65,000	December 25.	21	16·8
Barmen	108,000	January 8.	59	28·4
Stuttgart	125,510	January 8.	34	14·1
Leipsic	170,000	January 8.	90	27·6
Bristol	220,915	January 1.	97	22·8
Leith	70,329	January 1.	25	18·5
Pernambuco	111,000	December 29.	51	23·9
Zurich	87,689	January 1.	19	11·2
Vera Cruz	23,800	January 13.	21	46·0
Rio Janeiro	350,000	December 18.	227	33·8
St. Thomas	15,000	January 7.	14	48·6
Iquique	16,000	December 18.	15	48·8
Toronto	120,000	January 22.	26	11·2
Belfast	221,822	January 1,	136	31·9
Rheims	98,083	January 8.	58	30·8
Glasgow	545,678	January 1.	330	31·5

* Including 6,582 soldiers, not embraced in sanitary report.

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Lectures and Addresses.

AN ABSTRACT OF
THE MIDDLETON GOLDSMITH LECTURES ON MULTIPLE NEURITIS AND ITS RELATIONS TO CERTAIN PERIPHERAL NEUROSES.

By M. ALLEN STARR, M. D., Ph. D.,
PROFESSOR OF NERVOUS DISEASES IN THE NEW YORK POLYCLINIC.

Lecture II.

[The lecturer made an ætiological classification of cases of multiple neuritis as follows: 1. Toxic cases, due to poisoning by alcohol, arsenic, lead, or bisulphide of carbon. 2. Infectious cases, due to the direct action upon the nervous system of the infectious agents, producing diphtheria, variola, typhoid and typhus fevers, severe malarial fever, and tuberculosis, to which must be added the agent causing the epidemic form of neuritis known as kakke or beri-beri. 3. Spontaneous cases, due to uncertain causes, among which cold, exposure to dampness, and overexertion may find a place.]

Toxic Cases. (*a*) *Multiple Neuritis due to Poisoning by Alcohol.*—The pathology of alcoholic paralysis has only recently been brought to light. It is to Mosli, of Berlin, and Dreschfeld, of Manchester, England, that we owe the most important recent contributions to our knowledge of this form of neuritis, though the work of Henry Hun, of Albany, and that of Berkhardt, of Berlin, can not be passed over without recognition.

Lancereaux was the first to demonstrate the pathological basis of alcoholic paralysis. His observations were overlooked by physicians outside of France, and in England, where the disease is well known, it was ascribed, as lately as in 1883, to a spinal lesion. (Wilks, "Diseases of the Nervous System," p. 272.) Dreschfeld combated this theory, and called attention to the true pathology.

The disease is especially frequent among females. Males are not, of course, exempt from alcoholic paralysis, but in them the poison seems more prone to manifest itself by acute cerebral symptoms than by those of disease of the peripheral nerves. It is especially frequent among those persons in the higher classes whose nervous organism is highly developed, and who lead a comparatively inactive life. All alcoholic drinks are not equally prone to produce paralysis. It is the spirituous liquors, brandy, whisky, gin, and rum, and the liqueurs, absinthe, vermouth, etc., which are dangerous. And these liquors cause neuritis only when consumed in large amounts for a considerable length of time. Its onset, though often apparently very sudden, is usually gradual. For months the patient has suffered from chronic gastritis, insomnia, general neuralgic pains, or severe pains in the joints or limbs, and from tremor, and a certain feebleness in movement, when all at once the legs give way beneath her, and after the sudden fall she finds herself unable to rise. The paralysis soon becomes complete in the feet and legs below the knees, and may advance up the thighs. It next attacks the hands and forearms, and, while it is often greater in the extensors than in the flexors, in some cases both groups of muscles become entirely helpless. The paralyzed muscles are flabby, and soon become atrophied; they have no excitability on mechanical irritation, and the tendon reflexes are lost. The reaction of degeneration is present. [Here the lecturer described the phenomena of this reaction.] The paralysis may advance rapidly in severe cases, involving the motor cranial nerves, the muscles of the trunk, and, lastly, the diaphragm, thus causing death. More frequently, however, it is arrested when only the distal parts of the extremities are involved, and then it gradually subsides until recovery is complete. The position of the paralyzed limbs may be considered characteristic. There is dropped wrist, and also dropped foot, as seen in lead-palsy. If there is entire paraplegia, the legs and thighs may both be extremely flexed, so that the heels touch the buttocks, but this is exceptional. The paralysis may be limited to single muscles and to muscles supplied by single nerves. Thus, Lilienfeld describes a weakness of the extensors of the thumb and the fourth and fifth fingers, and Leudet mentions a paralysis of the ulnar nerve. Hun and Lilienfeld have seen cases of facial paralysis and of double abducens paralysis, but such cases are rare. In addition to the motor symptoms, there are œdema, occasional lividity, profuse sweating, a glossy skin, and disturbances of sensation. The pains are so severe at times as to prevent the patient from sleeping. There is hyperæsthesia, which is usually quite extensive in the legs, though in cases of poisoning by absinthe it has been limited to the soles of the feet. There is tenderness of the muscles and skin, and along the course of the nerves. Charcot says that muscular sensitiveness associated with flaccid paralysis is pathognomic of alcoholism. Paræsthesiæ are complained of; numbness, tingling, and formication are frequent; and abolition of the tactile sense, and to some degree of the muscular sense, is the rule after the paralysis is developed. The temperature sense and the ability to feel pain are never wholly lost, but the transmission may be delayed. The anæsthesia may be limited to irregular areas, and may affect only the cutaneous distribution of one nerve, but it is usually found over the distal parts of the paralyzed limb. Commonly the cutaneous reflexes are preserved. The loss of muscular sense is so marked in some cases that Dreschfeld terms them ataxic rather than paralytic. These cases may be mistaken for locomotor ataxia, and the French writers have named them *pseudo-tabes alcoholiques* (Déjerine, "Arch. de physiol.," 1884). Ataxia, however, may exist in some degree in cases of paralysis, and the cases of ataxia, on the other hand, are not free from paralysis. Charcot and Westphal have observed points of difference between the gait of a true ataxic patient and that of an alcoholic ataxic patient. The former throws the foot forward with undue violence, the toe lifted high in the air, and brings down forcibly first the heel and then the entire foot. The latter, however, has some weakness in the muscles of extension, and can not raise the toe. He therefore lifts the foot high, in order to step over the hanging toe and not to trip on it; but the motion is made without undue force.

He then throws the foot forward, in order to throw the toes up and get them out of the way as he brings the foot down to the floor. The motion is awkward, and the person has the appearance of one stepping over high obstacles. It is a voluntary attempt to remedy a deficient power—not the involuntary awkwardness of a man unable to manage strong muscles. There may be in both patients some tottering and swaying, when standing with the eyes closed.

The Argyle Robertson pupil has not been seen in alcoholic cases, while it is an early symptom of tabes. Alcoholic paralysis is almost always attended with cerebral symptoms. There is at first excitement rising to the degree of active delirium, with illusions and hallucinations of the various senses; there is insomnia, which soon exhausts the patient if not remedied; there is loss of memory, especially of recent occurrences, with a lack of power of attention or concentration which prevents intelligent conversation. Incontinence may occur, not from paralysis of the sphincter but from mental hebetude. The patient's own statements about his history and condition are worthless, being unintelligible or unreliable. Strümpell ("Arch. f. Psych.," 1883) was the first to draw attention to a peculiar delusion to which these patients are subject. They will relate, with much elaboration of detail, occurrences as having happened recently, when, as a fact, the story is entirely a product of their imagination.

The course of alcoholic neuritis is quite uniform. After a sudden onset the symptoms rapidly advance to a high degree, which is reached in a week or two from the beginning of the paralysis or ataxia. Then they may increase further, and cause death by respiratory paralysis. Usually they remain stationary for a time and then gradually subside, the entire duration being from two months to a year. During recovery, the tingling and numbness in the hands and feet may be severe. In a few cases the muscles become contractured, and permanent deformities develop.

(*b*) *Multiple Neuritis due to Poisoning by Arsenic.*—Though it has been known for years that arsenical poisoning might produce paralysis, it is only within the past four years that the pathology of the paralysis has been determined to be an affection of the peripheral nerves. Investigation of alcoholic paralysis, which arsenical paralysis much resembles, has materially assisted in placing the pathology on a correct basis. The nervous symptoms produced by arsenic have been thought to vary somewhat, according as the ingestion of the poison has been sudden or gradual. Brissaud states that, if there is slow poisoning, as, for example, by the long-continued use of Fowler's solution, paralysis is rather the exception, and is not severe—it is diffuse and transient, while other symptoms, such as gastroenteritis, trembling, delirium, and aphasia, attract the chief notice. If there is acute poisoning, the paralysis comes on either at once or in a short time. These observations do not coincide with those of other observers. In Dana's two cases, one of acute and the other of chronic poisoning, very similar symptoms of paralysis and ataxia developed. The symptoms resemble those of alcoholic paralysis, and the same description might do for both. In a case of Dana's there was loss of muscular sense. The duration of arsenical paralysis is somewhat greater than that of ataxia. Either condition may last several months, but occasionally the recovery is complete in a few weeks. Tingling and numbness may continue for months after the motor power has returned. According to Gerhardt (cited by Dana), 97 per cent. recover wholly.

(*c*) *Multiple Neuritis due to Poisoning by Lead.*—The lecturer did not wish to enter upon a description of the various forms of lead palsy, nor discuss the various theories regarding the pathology of the disease. He drew attention to the fact that there were now on record a number of autopsies in cases of lead paralysis in which the lesion had been found in the peripheral nerves. Still, he said, there are numerous cases of this disease in which decided spinal lesions have been found, and some observers ascribe the disease always to destruction of certain groups of cells in the anterior cornua of the cord. It must be admitted, therefore, that lead is a poison which under certain circumstances affects the spinal cord, and under other circumstances produces neuritis. The limitation of the neuritis in lead palsy to the motor nerves makes the clinical picture in some cases closely resemble that of an affection of spinal origin. But in a certain proportion of the cases of lead palsy there are marked sensory disturbances, consisting of severe pains, anæsthesia, and numbness. In these it is possible, especially if tenderness along the nerves and in the muscles is present, to make the diagnosis of multiple neuritis. A case of this kind observed by the lecturer was narrated in full.

(*d*) *Multiple Neuritis from Poisoning by Sulphide of Carbon and by Illuminating Gas* has been suspected, and the similarity of the symptoms in such cases to those already described is quite remarkable. But, as there are no autopsies to substantiate this theory, this cause is merely mentioned.

Multiple Neuritis consequent upon Infectious Diseases.—Diphtheria, variola, typhoid, typhus, and scarlet fever, malarial fever, and tuberculosis, are all especially apt to be followed by the development of nervous symptoms. These usually appear shortly after the period of convalescence in the acute fevers. The disease may consist of a simple paralysis of the muscles in the region of distribution of a single nerve. It may, however, affect several nerves on both sides of the body symmetrically. It may even paralyze two or more limbs. It occasionally produces sensory as well as motor symptoms in a single nerve-trunk. It may even cause a general sensory and motor paralysis of as widespread and complex a kind as that produced by chronic alcoholism. These cases were formerly referred to a central lesion, but recent investigators (Pitres and Vaillard, "Rev. de méd.," 1885) have shown that the peripheral nerves are often implicated.

(*a*) *Diphtheritic paralysis* is more common than any other of these forms of neuritis. Bernhardt (Virchow's "Archiv," 1885, Bd. xcix, p. 393) has found that in the large majority of cases of this kind there is a loss of the patella-tendon reflex; but whether this indicates any general affection of the peripheral nerves he does not venture to state.

(*b*) *Neuritis following variola* is a rare complication, and there is only one case ("Ctrlbl. f. d. med. Wissensch.," 1885, p. 693) on record in which an autopsy revealed the seat of the lesion.

(*c*) It is still somewhat a matter of conjecture whether cases of *paralysis following typhoid, typhus, and malarial fevers* are due to an affection of the peripheral nerves or of the spinal cord. The researches of Pitres and Vaillard ("Rev. de méd.," 1884, p. 980) have shown that extensive degeneration of peripheral nerves is to be found in the bodies of patients who have died of typhoid fever, and they have also demonstrated that these fevers are often followed by local neuritis as a sequel. Cases of multiple neuritis with autopsies have not as yet been reported after typhoid or typhus, but Buzzard ("Paralysis from Peripheral Neuritis," p. 104) has recently recorded two cases following malarial fever, in which all the symptoms pointed to an affection of the peripheral nerves. Gibney has reported similar cases. The lecturer cited a case coming under his own observation, which, he thought, was of the same nature. He expressed the opinion that the various transient nerve-affections of malarial origin, many visceral neuroses, and a host of symptoms of local character attributed to neurasthenia, were due to a peripheral neuritis.

(*d*) *Multiple Neuritis in Tubercular Patients or in those who have had Syphilis.*—In the cases of multiple neuritis cited a large percentage died of phthisis. Oppenheim ("Zeitschr. f. klin. Med.," 1886, p. 230) has reported cases of multiple neuritis in tuberculous patients which went on to recovery. Further facts are necessary to establish the existence of multiple neuritis in syphilis.

(*e*) *The Epidemic Form of Multiple Neuritis, Beri-beri or Kakke.*—This disease has been known for a long time among the Chinese. In 1882 Professor Scheube ("Dtsch. Arch. f. klin. Med.," xxxi, xxxii), of Tokio, Japan, called the attention of European physicians to the affection. It is considered by him a miasmatic infectious disease, although some authorities think it due in some way to the diet of rice. The disease is not confined to Japan, but has been observed in the islands of the Pacific Ocean, in India, in Ceylon, on the west coast of the Red Sea, in Borneo, in New Guinea, in Brazil, in Cuba, and in the Dutch possessions in the China Sea. It is endemic in these regions, but occasionally occurs as an epidemic. A commission appointed by the Dutch Government to investigate the nature of beri-beri has stated that the disease is caused by a micro-organism resembling the bacillus of splenic fever. These bacilli are found in the blood, lungs, heart, brain, cord, and nerves, and can be cultivated outside of the body. The germs infest wooden buildings chiefly; they may be conveyed by articles of clothing, and they probably enter the body by the lungs. Direct contagion has not been observed.

Beri-beri, according to its severity, is divided into two general classes: There are, first, slight cases, in which the onset is gradual, being preceded by a little fever, coryza, and conjunctivitis. At first there is a weak and heavy feeling in the legs, with numbness and slight œdematous swelling. Other symptoms are palpitation, anorexia, paresis, loss of the tendon reflexes, tenderness in the muscles, diminished electrical excitability, and irregular patches of anæsthesia. These cases usually end in recovery in a few days, or, at most, a month, although a few become chronic, and require several months before the cure is complete. There are, secondly, severe cases, of which there may be three different types. There is the atrophic or dry type, in which paralysis sets in rapidly, attended with atrophy and with the reaction of degeneration. The paralysis may spread to the arms, and involve also the muscles of the trunk, causing death by paralyzing the muscles of respiration. There are great sensory disturbances, and there may be a glossy state of the skin, but there are no gastric symptoms nor œdema.

There is also the hydropic or wet type. In these, heart-failure appears early, and is associated with marked decrease of arterial tension, and decided œdema of the entire body, with effusion into the cavities. The atrophy is masked by the œdema.

There is, next, the acute pernicious type. In this, all the symptoms of the two former types appear in rapid succession, and, in addition, gastro-intestinal symptoms and a suppression of urine combine to make the condition an alarming one. Effusions into the pericardium and pleura appear early. The pulse becomes weak and irregular, and cyanosis indicates the heart-failure which precedes death. This form may prove fatal in two weeks. The mortality ranges from 2 to 60 per cent., according to the severity of the endemic. The pathology of the disease is, primarily, a multiple neuritis, with, secondarily, numerous organic changes in various organs, none of which are, however, essential to the disease. As to treatment, quinine has not been found of any service in influencing the course of the disease. The pain must be allayed with anodynes, and sleep procured with hypnotics. Change of climate is often attended with recovery. In the stage of recovery, electricity and massage are useful.

MULTIPLE NEURITIS WITHOUT ANY APPARENT CAUSE.—Great fatigue, hard labor, and exposure have been cited as causes in some of these cases. In others the disease seems to have developed spontaneously. A few cases of this kind were mentioned.

SYMPTOMS OF MULTIPLE NEURITIS.—The sensory symptoms are the first to appear and the first to disappear. They consist of numbness, tingling, formication, paræsthesia, anæsthesia, etc. There may be hyperæsthesia to the touch and to electricity. The sensory symptoms are usually limited to the forearms and hands, and to the legs and feet. In a few cases they involve the entire extremities and even the trunk, and one case of facial tingling with anæsthesia has been recorded. The cutaneous reflexes are usually preserved. The special senses are rarely affected, but, in a few cases, hearing as well as sight has been impaired.

The *motor symptoms* consist of paralysis, which usually begins as a weakness in the legs. The development of the paralysis is usually rapid, and in two weeks it may be complete. The paralysis may be limited to the muscles supplied by a single nerve or to one extremity, or it may involve the whole body, and then it closely resembles Landry's paralysis. In some cases the cranial nerves may become implicated, and, in fatal cases, deglutition has been affected.

The paralyzed muscles are relaxed, flabby, and atrophied, the mechanical irritability may or may not be lost, and the tendon reflexes are abolished. The electric excitability undergoes a change, and, in marked cases, there is the reaction of degeneration. There is dropped foot, also dropped wrist; and other deformities may obtain as accompaniments of the paralysis. Vaso-motor and trophic symptoms are not so constant as the foregoing. Œdema occurs in some cases as an early symptom, but is usually only temporary; cyanosis and coldness of the affected parts are not very marked; profuse perspiration may occur. Other forms of trophic disturbance are rarely met with in multiple neuritis. An important negative symptom is absence of loss of control over the sphincters. The duration of the disease varies considerably, and may be said to be from two to sixteen months. The disease is more common in men than in women, except the form produced by alcoholism. All ages are liable, but, apart from the form produced by diphtheria, the cases recorded do not include those of any children, unless the four cases described by Dr. H. Chapin were true cases of multiple neuritis.

Diagnosis.—Multiple neuritis may be confounded with anterior poliomyelitis, tabes dorsalis, and diffuse myelitis. It differs from anterior poliomyelitis in its more gradual onset, and in the existence of tenderness of the muscles and along the course of the nerves. It differs from tabes by a more rapid onset, by the prominence of numbness and anæsthesia, by the tenderness of the muscles and nerves, by the usual occurrence of some degree of paresis with atrophy and the reaction of degeneration, and by the absence of vesical and sexual symptoms. Diffuse myelitis is very rare, and is marked by disturbance of the functions of micturition and defecation, girdle sensations, bed-sores, and cystitis. The advance of the paralysis differs from that of multiple neuritis, being from the legs and thighs to the trunk and then to the arms, while in multiple neuritis the paralysis extends from the inferior to the superior extremities and afterward to the trunk. In many cases, however, there is a combination of a central lesion with a lesion of the peripheral nerves. Some points were stated which would indicate whether a given case was complicated or not with a central lesion. It must also be remembered that tabes may be complicated by a peripheral neuritis, and some authors attribute all the accidental symptoms of tabes to this complication.

Prognosis.—The prognosis is good, provided the exciting cause can be removed, which is difficult in cases produced by alcoholism.

Treatment.—In the stage of invasion the free use of salicin, salicylic acid, or salicylate of sodium is beneficial. These remedies should be given in large doses until noticeable effects are produced. They should be combined with a bromide. Pain must be relieved with morphine, and hot or cold applications to the part. Gentle friction with cocoa-butter gives comfort. Of course, cases due to malaria or syphilis are to be treated with antiperiodics and anti-syphilitics. In cases of lead or arsenic poisoning, in addition to other treatment, the use of potassium iodide is beneficial. Cases due to alcoholism require to be treated on general principles, and the total withdrawal of alcohol should be accomplished, if the heart is not too weak. In the chronic stage strychnine and arsenic are the most useful drugs. It is well to combine them with phosphoric acid and iron. Baths and douches are to be recommended. Electricity forms a very important part in the treatment of multiple neuritis, and the form of current must be chosen with reference to the object desired. The constant galvanic current should be employed to favor regeneration of the diseased nerve. Faradization should be employed to re-establish the conduction of impulses in the regenerated nerve. The strength of the current used should be just sufficient to be felt distinctly through the palms of the operator's hands. The nutrition and function of the muscles should be maintained by exercising them, and thus preserving their normal irritability. The galvanic current must first be employed, until the muscles have sufficiently recovered to respond to the faradaic current. The current should be interrupted so as to cause contraction. The pole which produces a contraction with the weakest current possible is the one to be applied to the muscle. This is, in cases of the reaction of degeneration, the positive, in normal conditions the negative, pole. Each muscle should be exercised for three or four minutes every other day. The treatment must be kept up in the chronic stage until recovery is complete. If contractures have occurred in the paralyzed limbs, persistent massage may overcome them. If it does not, they are to be treated on general surgical principles.

Original Communications.

THE TREATMENT OF FRACTURED PATELLA.*

By J. D. RUSHMORE, M. D.,

BROOKLYN.

The lack of certainty in the results of treatment in cases of fracture of the patella, and the different values that are put by writers on the subject upon the various methods of securing the fulfillment of the general indications in the management of this injury, with a desire to learn what experience has taught the members of this society in the matter, are the reasons for submitting to the society this evening for discussion a short paper on the treatment of fracture of the patella, in order that the conclusions drawn from cases that have been under my care may be either confirmed or corrected.

That the discussion may be as practical as possible, and at the same time confined within reasonable limits, I submit the question, What is the best treatment in recent cases of simple transverse fracture of the patella? An answer to this question would doubtless be, in the main, the same by each of us, yet we should differ as to the relative importance of the obstacles to be overcome and the methods available for the purpose.

It is important to remember, in the first place, that the patella lies loosely in the tendon when the limb is lying in a horizontal position with the muscle relaxed, that the bone can be moved by passive motion freely and easily in a lateral and a downward direction, and not only so, but can be moved upward at will a distance of at least a third of an inch, showing that the ligamentum patellæ is not on the stretch normally; and so free is this motion of the bone that the leg can be flexed on the thigh to an angle of about 130° before the patella becomes fixed and immovable. And I have never been able to satisfy myself that this motion was any freer in my own limb with the body and thigh approximated, as they necessarily are in the sitting position, than in the limb of another person lying on a bed in a horizontal position, although theoretically it ought to be so.

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* Read before the New York Surgical Society, January 12, 1887.

The quadriceps muscle also has insertion into the capsular ligament, as well as into the tubercle of the tibia, through the ligamentum patellæ. A considerable part of the vasti muscles converges, it is true, to be inserted into the patella; but there is, after all, a certain part of the tendinous tissue directly continuous with the thin but strong capsular ligament. A very little dissection will demonstrate this to the eye; and the power to render the ligament tense is shown by traction on the vasti muscles in the dead subject, and a still better evidence of the force exerted by the vasti muscles in extension of the leg in the living subject is manifested by placing a finger on each side of the ligamentum patellæ and making the effort necessary in extending the leg, when the ligament will not only be found to become tense, but will perceptibly broaden under this effort.

This free motion of the patella is as marked, however, when the limb is horizontal as when it is elevated with the idea of approximating the origin and insertion of the muscle. It seems to me that these points are of value in deciding on what measures we shall use in diminishing the amount of separation that exists when the bone is fractured. The production of a few cases of fracture of the patella in the dead subject has thrown some light on the conditions essential for separation to take place in the fragments. I have been struck, in the first place, by the difficulty of producing a fracture of this bone by direct violence even with the leg flexed; and when the bone is sawn partly through from within outward, it is still difficult, by any force applied on its external surface, to complete the solution of continuity. When the partial section is made in the opposite direction, from without inward, a slighter force will complete it. When the bone is fractured alone, without any injury to the ligamentous and aponeurotic tissues adjacent, the amount of separation of the fragments is practically nothing; the moderately thin handle of an ordinary scalpel in a post-mortem case can with difficulty be inserted flatwise between the fragments. This amount of separation, as we all know, can be increased by cutting the soft tissues at the side of the bone; but, even when the capsule is cut to the extent of three inches laterally on each side from the edge of the patella, the fragments could not be separated more than three inches and a half, and this required some pressure to be made on the lower fragment. Additional separation could be obtained only by further lateral cuts and by vertical incisions upward.

The few attempts that I have made to produce separation of the fragments of fractured patellæ by injections into the joint have been almost entirely failures, whether employing air or fluids, for, in order to allow of the separation taking place at all, the aponeurotic tissues of the joint must necessarily be cut more or less, and, although the nozzle of the syringe can be tied in securely, the air or fluid injected, with even slight pressure, finds its way into the areolar tissue outside of the joint cavity, and distends its meshes very rapidly. It seemed to me, however, that there was a slight separation produced by the fluid that remained in the joint; but of this I can not be sure. Of course, where the bone is broken in the living subject, and inflammatory changes obliterate, in part at least, the areolar spaces in the immediate neighborhood of the lacerated capsule, and the fluid accumulates slowly, the problem is somewhat different, and, under these circumstances, the fluid might act in a way that it would be impossible for it to do in the dead body. I have an impression also, but nothing more, that, when the limb was elevated, the upper fragment sank a little downward by the weight of the water that remained in the upper part of the synovial sac. I should be unwilling, therefore, to draw any conclusions from my attempts to separate the fragments of broken patellæ by intra-articular injections.

I desire also, in connection with this subject, to describe the post-mortem appearances in two cases of fractured patella in the Brooklyn Hospital, where death resulted from other causes, but within a few days of the production of the fracture. These appearances are, of course, familiar to all of us, but an ocular demonstration of them adds interest to the matter under discussion, and these are the only opportunities that I have had to examine such cases. I can save time and space by speaking of them together.

They were middle-aged men. The fracture was in the right patella; recent in each (within three or four days of death); one known to have been produced by muscular action, and the other probably so, for the patient was intoxicated at the time of injury, and knew nothing of the method of production, but there were no marks of bruising in the soft parts over the joint except a discoloration near the biceps tendon; the skin was somewhat less movable over the fractured than over the sound patella; there was a separation of the fragments of about an inch and a half; the circumference of the knee was an inch in the first, and an inch and a quarter in the second case, greater than in the other knee; the lower fragment sagged down to a very slight extent. The fracture was a little below the middle of the bone, and transverse, and the edges felt sharp and well defined. On cutting into the joint, a small subcutaneous clot was found in the first case, and a clot as large and as thick as the palm of the hand in the second case, over the biceps tendon. The areolar tissue over the fragments was stained with blood, and, to some extent, matted to the tendinous covering of the upper fragment; the joint had been directly opened into by a rather lacerated wound on each side of the patella, in each case about two inches or two inches and a half in length, and, in addition, in the second case there was a vertical rent, partly through the vastus externus and through the synovial membrane, about three inches in length; there was a moderate amount of bloody serum in each joint, and in the second case there were a few small clots; the upper fragment in the second case was more movable upward than in the first case. Much to my surprise, the fractured edges were not sharp and clean-cut, as I had supposed from my examination before the joint was opened, but the rent in the periosteum in front was at a lower level than in the bone itself, and quite irregularly lacerated, so that it dropped down like an apron in front of the free edge of the upper fragment, partially covering the broken surface. This was true of both cases, and in the first case there were a few particles of bone adherent to the lower side of this periosteal flap. The edges of the fracture were covered and concealed by a firm clot that required considerable pressure with the thumb-nail to remove it, and this, with the periosteal flap already spoken of, was undoubtedly the explanation of my inability to obtain crepitus, although the fragments could be brought into contact with each other.

I take this peculiarity in the fracture to be unusual, not finding it described; but it is none the less singular that it should have been found in the only cases that I have had an opportunity to examine after death. To consider briefly the conditions that obtain in the living subject, we may start with the statement that the amount of separation of the fragments depends on the amount of laceration of the ligamentous and tendinous tissues in the neighborhood of the patella; not that in every case of extensive laceration there must necessarily be a wide gap, but that in every case of wide separation there must be extensive laceration as an essential condition. The presence of a considerable separation on superficial examination is proof of a considerable laceration, and we can satisfy ourselves of the presence or absence of laceration in cases where the fragments are close together by gentle flexion of the leg on the thigh, when the quadriceps will be excited to contract and tend to draw up the upper fragment, while the lower fragment will be displaced downward in cases where there is any laceration. If there is little or no separation under these circumstances, we may know that there is little or no laceration. I have occasionally, with the same object in view, made gentle pressure upward and downward on the fragments, but it has been accompanied by rather more pain than by flexion.

If we come now to consider the causes of separation of the fragments, while we admit that the clot interferes temporarily with the close approximation of the fragments, and the periosteal flap may in some cases prove a permanent obstacle to bony union, we must recognize that the real causes of separation are either muscular action or fluid accumulation in the joint; and it seems to me that facts do not warrant us in excluding either one of these causes. It does not seem to me that there is any natural tendency for the muscle to draw the upper fragment upward, inasmuch as the bone is so movable in its tendon; but when fracture takes place, the quadriceps is no exception to the contraction that takes place in all voluntary muscles after fracture, produced probably either by direct or reflex irritation—contraction that, unless overcome by proper methods, causes a very considerable amount of permanent shortening. There are also frequent contractions of the muscle taking place whenever the patients attempt to sit up, or even to turn over or to raise the hips, etc.; for, while the muscle is comparatively inactive after fracture, I do not think that it is paralyzed, for, with slight stimulus, the upper fragment is perceptibly drawn upward by it. Free from any tendency, therefore, to draw the unbroken bone upward, it seems to me, when fracture has taken place, that spasmodic action and the usual contraction that takes place after any fracture are causes at work in the production of the gap in fractured patella. And these two kinds of action take place quite as readily with an elevated as with a horizontal limb. It is true also that in the few cases of separation of the ligamentum patellæ that I have seen the bone has been drawn upward, producing a perceptible depression at the point of rupture, even though the joint was not injured and the amount of fluid in the synovial sac did not seem adequate to account for the displacement.

That the fluid in the joint, however, is a potent element in the production of separation, is to my mind quite clear. I saw it very forcibly illustrated in a case of fracture in the Brooklyn Hospital, while interne in that institution:

An officer, in helping to transfer an injured patient from a carriage to the hospital entrance, slipped and fell, producing a fracture of the patella. I saw him within five minutes of the receipt of the injury and found no separation. The fluid accumulated in the joint, and the separation increased as the fluid increased.

One would expect that if there were tension of the muscle normally present, the separation would have taken place immediately; and it might be said that the usual behavior of muscles after fracture would account for the gap as well as the fluid in the joint; but, as the fluid was absorbed, the gap diminished, as is not infrequent, and this I think could have been due only to the diminished pressure on the fragments by the fluid in the joint. Important, therefore, as the fluid in the sac is as a cause of separation of the fragments in fractured patella, it seems to me a less potent cause than the unusual action of the muscle. For what I saw in a case a few weeks since is generally true in cases that I have observed: that while the fluid had increased the circumference of the knee by two inches beyond the normal measurement, and aspiration had been suggested, by careful and slow traction on the fragments, crepitus could be obtained, although the fragments were quite two inches apart. It must be remembered that the normal capacity of the joint is increased by the rent in the soft tissues and the opening up, to some extent, of the areolar spaces in the neighborhood. Of course, it goes without saying that the inflammatory trouble in the joint enters as a somewhat important element in the treatment of the fracture.

The indications for treatment are plain enough with regard to the coaptation of the fragments. The other indications usually mentioned are the treatment of the inflammation of the joint and its resulting effusion, and the prevention of ankylosis.

The first is by all means the most important, and the variety of devices used for the purpose shows, in the main, their inefficiency. It seems to me, in the first place, that elevation of the limb is unnecessary and undesirable, for the reasons already given. All those methods for approximating the fragments that make traction on the skin alone and indirectly only on the bone are very inefficient in bringing the edges of the fragments together. They have the advantage of early application, of not pressing downward or tilting the fragments and thus avoiding the formation of adhesions; but, being attached only to the movable skin, they must fulfill very imperfectly this first indication.

Those appliances that are used where traction is made obliquely backward and downward and upward on the fragments, while more powerful and efficient than the former method, have some objections. They can not be applied until the inflammatory trouble subsides and the fluid is in part at least absorbed, or, if applied earlier, they produce so much pain that the necessary force can not be used to approximate the fragments, and while pressing on the fragments they at the same time press on the fluid, and in both ways tilt the fragments up; and even when applied late, they press the fragments against the condyles of the femur and favor the development of adhesions. Nor have they a very good control over the upper fragment, for the least involuntary effort at contraction obliterates the depressions above the patella and the bone slides up underneath the dressings. I think the objection made to them by Manning has force also, that the constriction of the dressings presses on the nutrient arteries and so interferes with repair. The most efficient way of approximating the fragments and keeping them in contact is by traction directly on the bone, and it seems to me that Malgaigne's hooks accomplish this end satisfactorily. They can be applied very easily; the traction is made directly on the bone fragments, and is in the long axis of the limb, thus avoiding both tilting and adhesions to the condyles of the femur, the fluid in the joint assisting in lifting the fragments up away from the condyles; the control of the motion —or the effects of motion—in the quadriceps is complete; the fluid does not interfere with their application; they therefore give the best chance for bony or very short ligamentous union. The objections, it seems to me, are not at all sufficient to deter us from using them, in view of the advantages they possess. I have used them in five cases with success, getting as an immediate result a shorter bond of union than by any other method, though never union by bone thus far. The pain was not great, the location of the introduction of the points not being a specially sensitive part, and the wounds behaving kindly by constant care and cleanliness. The pain of introduction could be diminished by the use of cocaine subcutaneously. The danger of necrosis, of erysipelas, suppuration, etc., is undoubtedly to be taken into account, but must be of very rare occurrence. The objection that if their use is not followed by bony union the patient is worse off than if he had a moderately short ligamentous union, on account of the greater liability of refracture, it seems to me is not a fair one, for the cases of refracture or rupture under these circumstances seem to have occurred soon after the discharge of the patient, while the bond of union was still weak; and we have all seen the same thing take place in cases where the separation was half an inch or more in extent, the firmness of the ligamentous band being dependent rather on its age than its length. The objection that they are "infernal" and "barbarous" is not sufficiently exact to be answered.

The second indication—the treatment of inflammation and the fluid accumulation—has been fulfilled in my cases by the ordinary rest, evaporating lotions, etc. I never have found it necessary to aspirate the joint, and it must be very seldom necessary to resort to this measure, as the broken fragments can be very easily approximated with the joint quite distended with fluid; besides, the operation is not entirely free from the dangers of suppuration in the knee joint. It seems to me unwise to resort to any active measures in fulfilling the third indication, the prevention of ankylosis, by flexion ever so gentle before the eighth week at the earliest; and to do this by the third week, as is recommended, is dangerous to the integrity of the ligamentous union if sufficient force is used to affect the adhesions at all.

I should expect, and have obtained, the best results in the treatment of single transverse fracture of the patella by applying a posterior splint with the limb horizontal and lying in a natural position, but not fully extended, by using Malgaigne's hooks introduced on the first or second day after the receipt of the fracture, by keeping this dressing on for four weeks, then removing the hooks, but not the splint, which has been kept on for four weeks more, the patient being in bed; then the patient allowed to be out of bed with the knee immovable for four weeks longer; by the use of the ordinary remedies for the relief of the inflammatory joint symptoms in the early stage, but without resort to aspiration; and by avoiding any effort to disturb adhesions until after the end of the third month, and then only by the patient's ordinary use of the joint in walking, etc.

I have purposely omitted saying anything about unusual forms of fracture of the patella, because they are outside the scope of the present inquiry, and have also said nothing of the treatment of old cases with weak knee by wiring, because I have no personal experience to relate.

CASES EXHIBITING THE RESULTS OF MULTIPLE PARACENTESIS OF THE DRUM MEMBRANE ON THE HEARING IN CHRONIC AURAL CATARRH,

WITH REMARKS.[*]

By OREN D. POMEROY, M. D.

Paracentesis of the drum membranes in very chronic cases of aural catarrh, where there is not only no increase in the secretion but an almost total absence of even the normal amount, has been done for some years. The object so far has been to relieve deafness and tinnitus aurium. It has heretofore accomplished very little for the hearing and less for the tinnitus.

In the "Transactions of the American Otological Society" for 1873 I published some cases in which a single puncture of the drum membrane had been made, with only very moderate effect on the hearing and somewhat less on the tinnitus. I have employed the operation occasionally since that time with varying results.

Within the year one of my assistants, Dr. Bates, hearing the explanation I gave of the cause of relief to the sunken membrane—that is, the diminution of the superficial area of the membrane consequent on cicatricial contraction at the site of the punctures, thus exerting a degree of outward traction on the more or less impacted stapes in the oval window—suggested that several punctures at a sitting would be likely to increase this effect. I replied that it would, and gave my consent to have the matter tested on some of my patients at the Manhattan Eye and Ear Hospital. The result was sufficiently satisfactory to lead us to continue the operation. At about this time Dr. Bates reported four cases in the "Medical Record" for January 23, 1886, operated on in a similar manner to what had been suggested, and calling it a new method, etc., for curing deafness. No acknowledgment was made of what I myself had done in the matter. The method recommended by the doctor, however, extended to numerous incisions of the membrane, after the manner of Gruber and Politzer, resulting in an amount of traumatism which I could not approve of, and in at least one of the doctor's cases considerable inflammatory reaction resulted, which is not likely to occur in the method by paracentesis.

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[*] Read before the Medical Society of the State of New York at its eighty-first annual meeting.

On an average, about four punctures of the membrane were made, generally in the postero-superior portion, although some were made in front of the manubrium. Where any part of the membrane was in apposition with the inner wall of the tympanum, some other portion for puncturing was sought out, for the sufficient reason that little or no aperture was likely to be made in the former location. The puncture of the membrane opposite to a less sunken part would of course allow the knife to penetrate deeper and make a larger opening. It has been insisted upon that a tolerably distinct perforation whistle should be produced after the punctures by inflation.

In a considerable number of cases it was found that the membranes were sunken so as to rest upon the promontory. In these instances, in order to make a proper puncture of the membrane, many points needed to be sought out to find where the membrane inclosed a cavity—that is, if a puncture were attempted opposite a totally collapsed portion, naturally no aperture was likely to be made, or, if so, it would be too minute for any useful purpose.

In carrying out this procedure it became necessary in some cases to make from five to eight essays before a sufficient number of actual punctures could be made. In not more than two or three cases was it impossible to produce the perforation whistle. The duration of time between the punctures at a given sitting was from three days to three weeks. It was not considered proper to repeat punctures as long as there was any considerable hyperæmia or tenderness in the membrana. Where there was great collapse of the membrane the performance of inflation aided in some cases in the operation. The pain of the operation was ordinarily trifling, but when the patient seemed sensitive a few drops of a four- to eight-per-cent. solution of cocaine, placed upon the membrane by means of a dropping tube, sufficed to make the operation tolerable to the patient, or even in some cases absolutely painless. It has been urged by some that repeated punctures of the membrane were likely to lead to adhesions to the promontory. This may be the case where active adhesive processes are at work in the tympanum, but I infer that in all the cases operated upon nothing of this kind existed, the patients being in a too advanced stage of inflammation for this to occur. Certain it is that nothing of the kind has resulted, but, on the contrary, the membrana in several instances has been drawn outward sufficiently to demonstrate by the touch of a probe that the membrane no longer rested upon the promontory as at first. This in the hands of one at all experienced in the manipulation is not difficult. In not a single instance has a considerable amount of inflammation of the membrana or drum cavity resulted, and the hearing has not been lowered. I could not at first credit the assertion made that the hearing was so much improved in some of the cases, but, on a careful examination myself, I was compelled to admit the truth of the observation.

Nothing is more difficult than to make a perfectly reliable test of the hearing; the patient is in a hopeful state of mind, and is ready to say he hears better when the facts do not always warrant the assertion. Usually the hearing was lowered for from two to four days after the operation, although, as has been observed before often enough, the hearing may be better *immediately* after the punctures, the thickened membrane offering obstruction to sound waves, and the puncture at first removing this obstruction. In all these cases a Graefe's very narrow cataract knife was used. The reason for this was, first, a straight instrument may be used with the infliction of less violence than one with the handle placed at an angle with the blade; and, second, the Graefe knife punctures with the infliction of less violence perhaps than any other instrument. It was not the object of the operation to make any large punctures or considerable incisions, for fear the membrane might be deformed or caused to adhere to the promontory; another point was carefully kept in mind—not to excite inflammation by unnecessary traumatism. It is not necessary to discuss the question as to whether the punctures were likely to remain open, for this rarely occurs, the tendency of the membrane to repair almost immediately being well known. In some instances the punctures allowed air to be forced through for only a few hours, while in others several weeks elapsed before no air could be forced through the membrane.

One effect of multiple puncture of the membrana tympani I hope will be found to be the *permanent* improvement to the hearing resulting from inflation. As is well known, many patients come to us with the hearing much lowered, but susceptible of great improvement by inflation. The tubes seem pervious enough—nay, in many instances, too pervious. The hearing seems not to be at its best unless there is a sufficient amount of intra-tympanal air-pressure to push the membrane outward and in a measure draw the base of the stirrup from its impaction in the oval window. The membrane, being elastic, presses against this condensed air, and the moment the Eustachian tube opens from any cause whatever, the excess of air in the tympanum is, so to speak, pressed out of the middle ear into the throat by the elasticity of the membrana tympani (and also by its own elasticity), and the stapes returns to its former position of impaction. Many devices have been employed to correct this faulty position of the membrana tympani, such as exhaustion of the air in the meatus, hermetically closing the meatus (Politzer), painting the membrane with collodion, division of the tendon of the tensor tympani, division of the posterior fold, etc., and all with only a measure of success. Some of our cases, notably Case II, seem to show that the numerous punctures have caused a real diminution in the superficial area of the membrana tympani, where the disappearance of the excessive movement (bleb-like) of the membrana tympani during inflation occurred. In those reported cases where the membrana tympani rested on the promontory previous to the punctures, and subsequently to the operations remained some distance from it, as determined by the touch of a probe and Siegle's otoscope, further evidence seems to accumulate confirmatory of this proposition. Is the improvement to the hearing permanent? Some of these cases have been under observation two years, and there seems little or no tendency toward relapse unless we reject the recurring cases of catarrhal otitis, which would not invalidate this proposition.

Case I.—J. S., aged forty, otitis media chronica. Membranes so much sunken that during inflation their movements were so considerable as to cause a loud clicking sound easily audible at some distance. H. D. R. n. $\frac{1''}{60'}$ (the clicking of the finger-nails together may be heard at about sixty feet), L. the same. After inflation, H. D. R. w. $\frac{\text{p.}}{40'}$, L. n. $\frac{3''}{60''}$, but this was momentary. On September 24th two punctures were made in the R. and three in the L. Four days afterward, H. D. R. n. $\frac{3''}{60''}$ L. $\frac{2''}{60''}$, two punctures were made in each drum-membrane. October 4th, made five punctures in the R. and three in L.

October 10th.—H. D. R. n. $\frac{10''}{60''}$, L. $\frac{6''}{60'}$. Three punctures made in the R. and four in the L.

20th.—H. D. R. n. $\frac{14''}{60''}$, L. n. $\frac{12''}{60'}$. This makes a gain in R. of 14″ against 1″, and in L. about the same.

Case II.—Dr. W., aged thirty, has had an otitis media chronica in R. for many years. The membrana tympani has a cicatricial look as though there had been an old suppurative inflammation. The history confirms this. The H. D. is w. 2″, after inflation 36″. The Eustachian tube is too pervious, and interchange of air between the middle ear and tympanum too frequent, and it is also too readily forced by Valsalva's operation. The act of deglutition immediately lowered the hearing to two inches. On November 11th four or five punctures were made in the membrane. Three days after this the hearing was lowered, and was not improved by inflation. Before the punctures were made the membrane moved outward excessively during inflation, presenting a bleb-like bulging.

On November 15th, H. D. w. 4″, after inflation 20″. Membrana tympani did not move outward during inflation except very slightly. Deglutition with the nostrils closed did not lower the hearing as at first. No bulging of the membrana tympani has been noticed since the punctures were made. On the 24th of November the H. D. was w. 8″ to 9″, not improved by inflation nor lowered after swallowing. November 27th, H. D. w. 6″ to 7″, after inflation 14″ to 16″; here was a permanent gain from watch 2″ to watch 6 to 7″. The constant voice-hearing was also greatly improved.

Case III.—Mary F., aged thirty-three, otitis media chronica for several years. On admission, January 4, 1886, H. D. R. w. $\frac{1\frac{1}{2}''}{30''}$, Left $\frac{1\frac{1}{2}''}{30''}$, not improved by inflation.

January 8th.—Punctured both membranes four times each, two in front and two behind the malleus handle. The left membrana tympani touched the promontory, and the right was so sunken that no air escaped after the punctures.

15th.—Both membranes punctured and perforation whistles elicited; membranes not so much sunken. On January 17th, H. D. R. w. $\frac{5''}{30''}$, L. $\frac{1\frac{1}{2}''}{30''}$; a considerable gain in right and none in left.

Case IV.—Ellen B., aged thirty-five, otitis media chronica of long duration. Applied December 16, 1885. H. D. R. w. $\frac{\frac{1}{2}''}{30''}$, L. w. $\frac{1\frac{1}{2}''}{30''}$. On December 28th four punctures were made in each membrane, two in front and two behind mal. handles. Cocaine was used, which produced some anæsthesia. Hearing lowered by the operation.

January 4th.—H. D. R. w. $\frac{2''}{30''}$, L. w. $\frac{4''}{30''}$. January 6th, four punctures made in each as before; caused some pain. January 11th, H. D. R. w. $\frac{8''}{30''}$, L. w. $\frac{3''}{30''}$. On same date did four punctures as before. Cocaine was used, which relieved any pain which might otherwise have resulted from the operation. This showed a gain of six inches and a half in the right and two inches and a half in the left.

Case V.—Peter McE., aged forty-six, otitis media chronica. Applied for treatment November 18, 1885. H. D. R. w. contact, L. n. $\frac{2''}{60'}$. Paracentesis of right membrana tympani as done in previous instances. On December 6th, left done in the same manner. On the 16th of December the left membrana tympani somewhat reddened. On same date both membranes again were punctured, four times in each; tinnitus somewhat diminished. On December 18th, H. D. R. w. $\frac{5''}{30''}$, L. n. $\frac{4''}{60'}$. On 23d, H. D. R. w. $\frac{5''}{30''}$, L. n. $\frac{6''}{60'}$. On this date repeated the punctures in each. In this instance the right gained five inches and the left two inches.

Case VI.—Edith H., aged thirty-five, otitis media chronica and desquamative inflammation of meatus externus. Was treated in the usual way until December 4th, when each membrane was punctured. Previous to this the H. D. was R. w. $\frac{\frac{1}{2}''}{30''}$, after inflation $\frac{4\frac{1}{2}''}{30''}$; L. w. $\frac{\frac{1}{2}''}{30''}$, after inflation $\frac{4\frac{1}{2}''}{30''}$. On December 14th H. D. R. w. $\frac{8''}{30''}$; after inflation, w. the same. L. w. $\frac{6''}{30''}$, after inflation $\frac{8''}{30''}$. By January 27th both membranes had been punctured three times, and the hearing had risen to 6″–8″ in each ear, and was unaffected by inflation.

February 5th.—Both membranes punctured; no change in hearing.

March 17th.—Recorded that the tinnitus had been relieved.

April 28th.—H. D. R. w. $\frac{12''}{30''}$, L. $\frac{11''}{30''}$; neither improved by inflation.

May 21st.—R. and L. hear the watch about $\frac{15''}{30''}$, not perceptibly modified by inflation. Here was a gain from ½″ in each, increased to 4½ after inflation, to 15″ in each, not improved by inflation. The treatment was continued five months. At first there was great difficulty in making her hear ordinary spoken words, but at the termination of the treatment ordinary conversation could be heard with great comfort. In this instance the maintenance of the improved hearing by inflation was accomplished, and considerable hearing added to this.

Case VII.—Mr. G., aged fifty-eight, a porter, has had chronic middle-ear disease for several years, although he has never noticed that the right ear was affected. Right hears w. in contact, left not at all; not improved by inflation. Has had tinnitus in the left for three months, which came on suddenly from having caught cold. Bone-conduction weakened in left. The tinnitus was not relieved, though potassium bromide, hydrobromic acid, and paracentesis were employed. The left membrane was punctured on three different sittings at intervals of from four to six days, four punctures being made each time. No cocaine was used; the operation was scarcely painful at all, and no inflammation or soreness resulted from the operations. The improvement was from w. 0 with poor voice-hearing to w. contact and comparatively good voice-hearing. Eustachian tubes at all times pervious, and could be inflated by Valsalva's operation more easily than in normal cases.

Case VIII.—Miss K. L. F., aged twenty-six. Otitis media catarrhalis chronica in both for the space of three years. Tinnitus constant in left ear; never any in right. Signs of excessive sinking of drum membranes.

Hearing, right w. $\frac{2}{48}$; left, not hear watch at all. Little or no improvement on inflation.

On March 17, 1886, did double multiple paracentesis. Two weeks after, repeated the operation on the left. This was repeated, at intervals of ten days, four times, making six operations in all. At each sitting five punctures were made. Cocaine was used, which diminished the pain of the operations, but did not render the patient insensible to them. After the third series of punctures on the left ear, the hearing rose to watch in contact, with voice-hearing very much improved. The voice was readily heard at two feet. The noise is still constant, but does not trouble as much as formerly. At first she could not sleep in consequence of it, but now there is no difficulty in sleeping. Bromides and hydrobromic acid had no effect on the tinnitus. Pharyngeal catarrh has been treated, more, however, for the benefit of the right ear. Hearing fluctuates in both ears with atmospheric changes, less so in the left than the right.

Case IX.—J. Van D., aged thirty, otitis med. chron.; tinnit. in both. R. hears finger-nails at 2″, and L. at 20″. R. membrana tympani touched the promontory.

Four punctures made in each membrana tympani on January 11, 1886, and January 29th, H. D. R. n. 30″, L. n. 30″.

Case X.—Henry V., aged twenty-eight, applied June 3, 1885, with otitis med. chron. for five or six years. Tinnitus in both. Had syphilis five years ago. Hearing, R. and L. n. 1½″. Paracentesis was done on each membrana tympani (four to six punctures each) on November 25th, November 30th, December 4th, and December 16th. No special reaction from the punctures, and as a result the tinnitus was diminished and the hearing somewhat improved.

Case XI.—Bridget R., aged fifteen, applied for treatment June 26, 1885, with chronic middle-ear catarrh since early childhood. H. D. R. n. 4″, after inflation 10″; L. n. 1″, after inflation 8″. Ordinary treatment not succeeding in accomplishing anything, paracentesis of both membranæ was done on October 4th. This was repeated on October 7th on the R., and on the L. on October 9th. On October 12th paracent. of R. Paracentesis was done three times on each membrana tympani between this date and October 30th, when H. D. R. was n. 5″, after inflation 8″; L. n. 1″, after inflation 4″. The result here was altogether *nil*, and, in spite of the large number of paracenteses in each (nearly forty), the hearing was not lowered nor was there any considerable reaction.

Case XII.—Jane L., aged twenty-five, has chronic middle-ear disease in both, with tinnitus in R. Commenced treatment on January 4, 1886. H. D. R. w. c. not improved by inflation; L. w. 3″, and not improved by inflation. On January 6th paracent. on R., and on January 11th paracent. on L. On February 5, 1886, H. D. R. w. c., after inflat. w. 1″; L. unchanged. Patient says hears voice better in R. There evidently was no improvement in L. Did not return for further treatment.

Case XIII.—Mary B. Van H., aged sixty-eight, has chronic middle-ear disease in both, with tinnitus; the latter seems to cause headache. Malleus-handles almost horizontal, with other signs of sinking of membrana tympani. Applied for treatment January 8, 1886. H. D. R. and L. n. contact. On January 15th paracentesis in both. January 22d, H. D. R. and L. n. 1″. Noises much less, and do not cause headache as before. The gain to the hearing in this case is almost too slight to record.

Case XIV.—August K., aged twenty-seven, otit. med. cat. chron. January 4, 1886, H. D. R. w. pressed, after inflat. ½″; L. n. 2″, after inflat. 4″. January 15th, paracent. of R., and on 20th both were punctured. On January 25th both membranæ again punctured; R. membrana tympani resting on promontory. Punctured again on February 5th. On February 8th H. D. R. w. ½″, slightly improved by inflation. L. w. contact, increased to w. ½″, which was at first n. 2″, increased to 4″ by inflation. There was a decided increase in L. In this ear bone conduction was reported to be somewhat weak.

Case XV.—J. J. F., aged thirty-five, otitis med. cat. chron. January 18, 1886, H. D. R. n. 1½″, after inflat. 2″; L. n. 4″, after inflat. 20″. January 20th paracent. done on both. This operation was repeated on January 25th, February 14th, and February 28th. Cocaine, a four-per-cent. solution, used without relieving the pain from the operation. The H. D. in this case was unaffected by the punctures.

Case XVI.—Henry Van D., aged twenty-eight. January 3, 1885, applied on account of a chronic otitis med. with labyrinthine complications. Hears neither watch nor nails in each ear, but the tuning-fork may be heard six seconds in each by aërial conduction. Bone-conduction absent in R. and just perceptible in L. Suspected syphilis. October 10th, both membranes punctured. October 19th, punct. R. Again punctured R. on October 21st. October 24th, both were punctured. On February 8, 1886, H. D. R. n. 1″, after inflat. 1¼″; L. n. 1½″, after inflat. 1¼″. On December 18th the record places the H. D. R. n. 10″, after inflat. 9″; and of the L. n. 20″, after inflat. 30″. I conclude that this patient might have been still further improved had treatment been continued. The signs of labyrinthine disease in this case seemed to indicate that it was secondary to middle-ear disease, and possibly connected with a syphilitic condition.

The following cases are from the practice of Dr. Neil J. Hepburn, assistant surgeon to the Manhattan Eye and Ear Hospital, who has kindly placed them at my disposal:

Case XVII.—J. F., a lawyer, aged thirty-five, has a chronic otitis media, presenting the usual appearances on examination. H. D. R. w. $\frac{2''}{40''}$, L. w. $\frac{15''}{40''}$; after inflation, R. w. $\frac{3''}{40''}$, L. w. $\frac{20''}{40''}$. Two minutes after the last observation the hearing dropped to the first statement. Treatment of the Eustachian tubes failing to maintain the improvement gained by inflation, paracentesis of the membranes was tried on September 20th, when five punctures were made in each membrane with the temporary effect of lowering the hearing, but one week afterward there was improvement. On October 25th four punctures were made. On November 1st the H. D. R. was w. $\frac{24''}{40''}$, L. w. $\frac{22''}{40''}$.

After two months the patient again reported with H. D. R. w. $\frac{20''}{40''}$, L. $\frac{26''}{46''}$. Mt. much less retracted in right, not attached to the promontory, fewer signs of sunken membrana tympani; other in similar condition.

Case XVIII.—C. S., tobacco-wrapper, aged twenty-one, was first seen September 15, 1886. Both membranes much retracted, but under inflation moved outward promptly with a click-like sound. R. heard the snapping of finger-nails at $\frac{1''}{60'}$, after inflat. heard the w. pressed on auricle; L. nails $\frac{3''}{60'}$. Punctured membranes on September 24, 1885, September 28th, October 4th, October 10th, and October 20th. On December 13th the hearing was R. w. $\frac{20''}{40''}$, L. w. $\frac{14''}{40''}$. (This improvement seems to me almost unaccountable, and, as will be seen, is far above the average.—O. D. P.)

Case XIX.—W. H. G., aged twenty, has otitis med. chron. of three years' duration, mostly of the right ear. The left soon rose to perfect hearing by other treatment, so it is not recorded. The right membrana tympani much sunken in front and behind the malleus handle, so that the latter appeared as a ridge dividing the membrana tympani into two unequal portions. There was a light reflex in front and another behind the manubrium. Hearing, w. $\frac{1''}{40''}$, not improved by inflation. On October 10th made three punctures in the membrana tympani. It was found adherent to the promontory (or in contact with?), there being no movement under inflation, and the touch of the knife showed no yielding of the membrana tympani. October 17th, hearing of the R. w. $\frac{8''}{40''}$; four punctures made in the posterior portion. October 24th, hearing w. $\frac{20''}{40''}$. Membrana tympani no longer resting on promontory, but may be freely indented on pressure with a probe. November 21st hears the watch at 25'', and is so satisfied with the result as to discontinue further treatment.

Case XX.—E. F., a domestic servant, applied November 11, 1885, with chronic middle-ear disease dating back to childhood. Treatment by ordinary means failed to improve, so she had to leave her place. R. hears w. $\frac{1''}{40''}$, L. nails $\frac{1\frac{1}{4}''}{60'}$. No special improvement on inflation. November 25th, five punctures of left membrana tympani; one week later heard a watch at $\frac{5''}{40''}$. Subsequent to this two punctures were made in the right and three in the left. December 12th, R. heard the watch $\frac{10''}{40''}$, L. w. $\frac{12''}{40''}$. Some tinnitus in left. She returned to service with sufficient improvement of hearing to retain her place, but was unable to continue treatment. Bone-conduction was at first better in the ear with the better aërial hearing, but I do not conclude that the examination was complete enough to prove that the worse ear had labyrinthine complication.

Case XXI.—Mrs. M., aged forty-eight, chron. otitis media for several years, for which she has been treated without benefit. R. hears the watch $\frac{4''}{40''}$, L. $\frac{6''}{40''}$. Inflation does not improve, and the membranæ move only slightly. December 7th made three punctures in each membrane, which lowered the hearing. By December 18th the hearing had increased to R. 14'', L. 20'', when two punctures were made in each membrane. Ten days subsequent the hearing of the R. was w. 24'', L. 30''. Was ordered to return if hearing lowered.

Case XXII.—Miss G., with chronic middle-ear disease of R. Left normal. Commenced treatment December 8, 1885. Hearing w. $\frac{1\frac{1}{3}''}{40}$. After inflation, $\frac{3''}{40''}$. No further improvement could be gained by ordinary treatment, so on December 15th two punctures were made. On the 19th hearing was w. $\frac{8''}{40''}$; three more punctures were made. On the 22d the hearing rose to 18'', when two more punctures were made. On December 29th heard a watch at 21'', *and was not improved by inflation.* Reported on January 17th, with H. D. w. $\frac{23''}{40''}$, *but was rendered lower by inflation.* Dismissed.

Case XXIII.—Mrs. M., aged thirty-one, applied September 20, 1886, for a tinnitus, vertigo, and hardness of hearing in the left ear; right nearly normal. The symptoms of vertigo have worried her very much, she fearing brain trouble. The membrana tympani is much retracted, and adherent to the promontory.

Hears a watch at 1⅓'', increased to 2½'' after inflation. Two punctures were made in the membrana tympani with little effect on the hearing, but by October 5th the vertigo was much lessened.

October 18th.—Again punctured, and by November 1st the hearing was w. 5½'', and there was no vertigo.

December 14th.—About as on last note. Patient refuses further treatment, as she thinks she hears well enough, and has no unpleasant symptoms; moreover, the pain of the operation seems to have intimidated her. She has the impression that the hearing is constantly improving. Result, permanent improvement, from watch 1⅓'' to 5'', the latter not affected by inflation, and the vertigo completely relieved.

Case XXIV.—H. McG., aged thirty, applied October 17, 1886. Right ear suppurating; left, chronic middle-ear disease for a long time; hears w. 3'', increased to 7'' by inflation, but, on swallowing, the hearing returned to former distance. Mt. sunken, but movable during inflation. Five punctures were made; these were two in front and three behind malleus-handle.

October 24th.—Hears a watch 5'' before and 9'' after inflation. On October 31st, H. D. w. 10'', increased to 14'' by inflation. Two punctures made.

November 14th.—H. D. w. 15''; not improved by inflation.

Subsequent punctures were made, but no further improvement was gained.

The patient did not return. Here was a permanent gain of from w. 3'' to w. 15'', and no loss of hearing on emptying the tympanum of air by the act of deglutition, as at first.

This series of cases seems to me exceptionally good, but it will be observed that none of them belong to the order of somewhat desperate cases for which the operation is thought to be more applicable.

Summary.—There were in all twenty-four cases, of which eleven showed decided improvement to the hearing in both ears, namely, Cases I, IV, V, VI, IX, XVI, XVII, XVIII, XIX, XX, XXI.

There was considerable gain in the hearing of one ear in Cases III, XII, XIV, but no improvement in the other. In Case II there was great improvement to the hearing in one ear by inflation, but it was not maintained until after the punctures, when the hearing permanently rose from 2'' to 15'' (this was the case where the bulging of the membrana tympani during inflation ceased after the punctures of a single sitting). In Cases V and XIII the tinnitus was somewhat diminished.

Case VI showed most extraordinary improvement to hearing, which was maintained without the necessity of inflation. The observation was made in this case with great care, and is undoubtedly reliable.

Case VII showed decided improvement in the hearing of the one operated on, but the tinnitus was unaffected.

Case VIII showed considerable improvement to the hearing, and some diminution of the tinnitus.

Case X showed some improvement to the hearing in each ear, and the tinnitus was diminished.

In Case XI there was no improvement whatever; but no diminution of hearing followed, although more than forty punctures were made.

Case XIII showed little or no improvement, and Case XV was not improved at all. In Cases XVII and XIX, where the membranes were in apposition with the promontory, the operations resulted in removing them from contact with the inner tympanic wall.

In Case XXII, where one membrane only was operated on, the hearing rose from watch 3″ to watch 23″. Similar observations for Case XXIV.

In Case XXIII the one ear operated on was much improved in the hearing, and a very unpleasant vertigo was relieved.

Gruber and Politzer, who have written more on the subject of similar operations on the drum membrane than perhaps any other, seem to exhibit some confusion in stating conditions—one insisting that the membrane is relaxed, while the other speaks of it as in a state of tension. I believe both are right, under certain limitations. When the membrane is at first sunken from closure of the tube, there is great pressure on its outer surface, and naturally it is put upon the stretch—is in a state of tension. Subsequently, when the tube becomes pervious, as in most of my cases, there certainly is no more *tension* of the membrane, although it undoubtedly is stretched and increased in its superficial area; there is, then, at this stage *relaxation.* During the stage of active collapse of the membrane the stapes must be driven more or less into the oval window, and, if this continues long, impaction results. After restoration of the intra-tympanal air-pressure from restored perviousness of the tube, the stapes may still be driven into the oval window, requiring a certain amount of tractile force to draw it sufficiently outward; this the membrane no longer can accomplish, as it is stretched and unable to fall into a normal position, which would practically result in drawing the stapes from its impaction in the oval window. This seems clear enough from the condition of many of my patients where the hearing was good so long as air was forced into the tympanum; but, on opening the tube by the act of deglutition, the air would escape, and collapse of the membrane result, with the previous deafness. The improved position of the membrane, with augmented hearing, seems to almost prove that the drum membrane had been shrunken up to a degree, consequent on cicatricial contraction, the result of the punctures.

I have followed Politzer and Gruber somewhat in these operations, but they are not quite identical; neither is the explanation thereof. I believe this operation is a justifiable one, and entirely free from danger. I am indebted to Dr. J. L. Barnes, of the Manhattan Eye and Ear Hospital, for carefully prepared notes of many of these cases.

PARALYSIS OF THE LATERAL ADDUCTOR MUSCLE OF THE LARYNX,

WITH UNIQUE CASE.*

By FRANK DONALDSON, Jr., B. A., M. D.,

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Paralysis of the adductor muscles of the larynx, as is well known, is most infrequent; it is the *abductor* muscle or nerve which is affected in the vast majority of cases. Semon says in this connection: "Not only have I never seen such a case, but in the whole range of laryngeal literature which is known to me I have been unable to find a *single case* in which primary organic † disease of the brain or nerve trunks was proved by clinical observation or the result of post-mortem examination to have been the cause of isolated paralysis of the adductors." Morell Mackenzie gives five cases in all of paralysis of one lateral adductor; in one case only was there a post-mortem made, and in this, though the muscle itself was atrophied, there was no disease of the nerve trunk. He has met with this form of paralysis after small-pox and from syphilis. Cohen says it may result from organic cerebral disease, from phthisis, from metallic poisoning, from injury to or pressure upon the nerve, etc.

However this may be, the affection is very rare, and, although in the following case I have no positive proof of disease of the brain or nerve trunks, I am satisfied that the lesion was a paralysis of the *left lateral adductor.* Owing to the importance of the observation, I asked my friends Dr. H. Clinton McSherry and Dr. Samuel Johnston to examine the case. They did so upon separate occasions, and both confirmed my diagnosis. Briefly the case is as follows:

E. M., a farmer, aged fifty-three, consulted me in August, 1886, for partial loss of voice, which had come on somewhat suddenly eight months before, and which had become gradually worse. He was and had always been a strong, healthy man, accustomed to an out-door life. He had never been ill in his life. There was absolutely no history of either rheumatism or syphilis. Some months before I saw him he had suffered, however, with a very severe pain located behind the right ear, following which came considerable deafness in the left ear, with loss of voice. On laryngoscopic examination, the left cord was seen in extreme abduction, immobile during respiration and upon phonation; and, although the right cord was well adducted beyond the middle line, there was still a considerable aperture between the vocal bands. The arytenoids were healthy, and this fact was specially noted, for it is well known that symptoms of a paralytic character are produced by destruction or impairment of one of the crico-arytenoid joints from ossification or other morbid change; and in these cases there is generally some abnormal appearance, such as enlargement or swelling about the base of the arytenoid cartilage. My experience, too, has been that in the latter class of cases there is gradually more or less movement of the cord on the affected side. In the case in question there was absolutely no movement. Again, ankylosis of the arytenoid results from a perichondritis following typhoid fever, syphilis, rheumatism, or gout, and there was no such history in this patient. Finally, the attack of severe pain behind the ear, with the deafness and loss of voice which followed, pointed to a brain lesion as the cause of the trouble.

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* Read before the Clinical Society of Baltimore, January 16, 1887.

† The word organic is used because it is well known that the functional neuroses show a strange predilection for affecting the adductor muscles.

Treatment was of no avail, and at last accounts there had been no change in the patient's condition.

The uniqueness of this case naturally suggests the question, Why in both central (brain) and in peripheral (nerve trunk) lesion are the *abductors* almost invariably affected? Or, to put it more broadly, why, in such cases, do we find the cord fixed in the middle line (in the phonatory position)? There are several explanations of this fact:

1. Semon holds that there is a natural "*proclivity*" of the abductor fibers to disease, and he looks on all cases where the cord remains fixed in the middle line as examples of true paralysis of the posterior crico-arytenoid muscle.

2. Krause, on the other hand, maintains that, "in analogy with neurotic manifestations in other portions of the body, organic irritation of the recurrent laryngeal nerve produces spasm of all the muscles supplied by its fibers, both those which preside over the patency of the glottis for the respiratory purposes, and those which preside over the approximation of its edges for purposes of phonation, cough, or expulsion of foreign material; but that, inasmuch as the number and mass of muscles and nerve fibers predominate in the domain for closure, the equilibrium maintained by the respiratory center under normal conditions is overpowered, and the spasm therefore manifests itself in the closing phase only, despite the co-existent spasm of the dilator muscle. The opinion held, then, is that the phenomenon of permanent fixation is due to the overpowering contracture or final spasm of the contracting muscles of the larynx, and not to a paralysis of the dilating one. The atrophy of the dilating muscle is attributed to its mechanical, not to its paralytic immobility."

Such are the two chief theories with regard to this question of laryngeal paralysis. I do not propose in this paper to give a list of authorities who agree with the one or the other, but desire here to define my own position in the matter, and to offer an explanation of the phenomena of this so-called abductor paralysis. In a paper read before the American Laryngological Association in 1886, I stated that my experiments gave no confirmation of Semon's assertion. On further consideration, I find this statement too broad. Whereas I was at first inclined to deny Semon's statement (on scientific grounds), I now go almost as far as he does—*i. e.*, I am fully convinced that *the abductor fibers are much more irritable and have much less power of resistance than the adductor fibers, and that they die sooner;* though I can not say that I have as yet any experimental (histological) proof that they degenerate more rapidly, after chemical, mechanical, or electrical stimulation, than the adductor fibers.

In the experiments related in that paper I also found that the abductor muscles responded to a much weaker stimulus than the adductors did, and that this result invariably followed—whether the dog was slightly, deeply, or thoroughly narcotized, whether the animal was eupnœic or apnœic—when the medulla had been destroyed and after local death had taken place. This important fact (that the adductor muscle does respond to a slighter stimulus) has been confirmed by Semon and Horsley. In a paper "On an Apparently Peripheral and Differential Action of Ether upon the Laryngeal Muscles," in the "British Medical Journal" for August 28, 1886, page 405, they say: "With weak stimuli, other things being equal, *abduction* of the vocal bands generally occurs, as has been recently shown by F. Donaldson, Jr. We have repeated in a few instances Dr. Donaldson's experiments, and have, on the whole, obtained similar results." My observation has, I understand, also been confirmed by a distinguished American physiologist, *provided the animal is slightly under ether.*

Again, I found (and this, too, has been confirmed by Semon and Horsley) that, when after death the recurrent laryngeal nerve was stimulated, *abduction* disappeared long before *adduction*, which would certainly show that the *abductors die* or become exhausted first.

In view of the foregoing facts, I am forced to agree with Semon that those cases where the vocal band is found fixed in phonatory position are true paralysis of the *abductor* muscle, and not spasm of the *adductor* muscles. Moreover, the constant implication of the abductor muscle may be explained on the ground of the greater irritability of the abductor muscle or nerve fibers. *For in cases of unilateral or bilateral lesion of the cords from an aneurysm or tumor the constant pressure exerted by either upon the nerve acts as a mechanical stimulus to it, and the more irritable abductors are, therefore, the first to show the result of this constant stimulation in their loss of function.*

Another factor in the fixation of the vocal band in the phonatory position in the majority of cases (as shown by Dr. Gowers) may be the mechanical advantage at which the chief adductor acts, as compared with the chief abductor, which gives greater power to the former, since it passes nearly at right angles (while the abductor passes at a very acute angle) to their identical insertion into the muscular process at the outer angle at the base of the arytenoid cartilage. Any loss of power would, therefore, affect the abductor muscle most.

Finally, it is but right to confess that my experiments tend to confirm Semon's conclusion.

I hope in a later paper to develop further this theory of a greater irritability of the abductor muscle, which I think goes a great way toward explaining its so frequent paralysis.

"The Medical Register" is to be the title of a new weekly medical journal that will be published in Philadelphia, under the editorial management of Dr. John V. Shoemaker and Dr. William C. Wile. The first number was to have been issued on the 8th instant.

CHYLURIA.*

By H. G. V. De HART, M. D.,
PLEASANTVILLE, N. Y.

When this diseased condition first attracted my attention, current literature was not very rich in its description, and even to-day much remains for medical science to unravel or reveal respecting its peculiarities or behavior. My note-book shall first furnish material as to history, treatment, and results.

E. H., female, unmarried, aged eighteen, native, medium height, family history good; menstruation began at thirteen years of age, and has always been attended with irregularity, distress, and hysterical manifestations. The bowels have always been constipated, frequently remaining quiet for ten days, until operated upon by powerful cathartics. As a possible factor in the development of the disorder under consideration, I have thought well to refer to an incident which occurred *prior* to the recognition of any abnormal conditions in my patient. On the morning of March 23, 1878, she was informed of the sudden death of an only brother by an accident. She, immediately on the reception of this sad news, became hysterically convulsed. Only by the prolonged anæsthetic influence of chloroform was she controlled. A few days' treatment by antispasmodics and tonics resulted in her apparent restoration to usual health. I heard nothing more from her until the afternoon of November 5, 1878, when I was called and informed by the mother of the following facts: During the past three months (at least), and possibly longer, a peculiar coloring of the contents of the urinals used by the patient and other members of the family had been noticed, and to solve the cause or causes of it was the occasion of my visit. As explained by the mother, the urine looked like milk and was very offensive. No effort had been made prior to my visit to fix the source or cause of this anomalous urine, and I at once suggested that each member of the family make use of separate vessels, and I would call the next day to ascertain the result. This I did (November 6, 1878), and was enabled to recognize the same fluid as had been noticed by the mother in the vessel used by my patient. This fluid was an opaque, milky liquid, specific gravity 1·026, absolutely devoid of urinous odor, and slightly albuminous. Having now beyond doubt established the origin of this (to me) strange excretion, I made inquiry of my patient respecting her health for the past three or four months. She gave the following history: Ever since her hysterical seizure there had been a constant, dull, aching pain at the base of the brain, dragging pains across the loins, insomnia, and very marked constipation. She professed ignorance of this change in the urine, averring even that she knew nothing of it until confronted with it at this time. Catheterization only confirmed the fact. I was nonplussed. Here was a study in pathology and practice entirely foreign to anything I had ever seen or even read about. I was at a loss what to do. If I confessed ignorance I might lose control of the case. I therefore determined to treat her on general principles—as by tonics, diuretics, and laxatives—until such time as I could acquire from literature or otherwise such information as would enable me to treat her intelligently. My own book-shelves afforded me no literature bearing on this disorder. I therefore visited the libraries of several medical friends, only to learn that Bence-Jones, in von Ziemssen's "Cyclopædia," vol. vi, recommended in the way of treatment gallic acid. I at once decided to give the drug a trial (at least), as none of my *confrères* or friends could give me any advice as to diagnosis, prognosis, or treatment.

In passing, allow me to remind you that from the date of fixing the source of this disorder (November 6, 1878) to date of beginning gallic-acid treatment, the daily average flow of chylous urine was only three ounces.

On January 27, 1879, I gave the first dose of gallic acid, in twenty-grain doses, three times daily, and no other treatment excepting exercise, rubbings over the pelvic region, and nourishing diet. In a few days there was a manifest change in my patient's symptoms; the offensiveness of the urine had disappeared; the opacity began to give way to a pinkish tint; a urinous odor began to be developed; quantity was increased; sleep became more natural; appetite and other functions became progressively normal, and in less than thirty days (February 22, 1879) the urine was almost natural in quantity and quality. Convalescence, if such it can be called, was rapid, and in a few weeks my patient was discharged cured.

It is interesting to state that I have treated her frequently for other troubles in the past seven years, but never since the winter of 1879 has there been any exhibition of chylous urine or any of its attendant symptoms. She has married in the last year, and is, to all appearances, in perfect health. I am compelled to regret that, by reason of the rarity of chyluria (in this climate) and my consequent ignorance of the desirableness of microscopic and other examinations of the blood, etc., these were not made early enough in the disorder to disclose anything which would serve to throw light on the causes operative in producing this sporadic case. There was no variation in the flow of chylous urine respecting its nocturnal changes, as will be referred to later on. It is also noteworthy that my patient was never farther south than New York city prior to the development of this disorder. Wherefrom or in what manner it acquired its causation I am unable to say. Had her convulsive movements anything to do with rendering it possible for the chyle to enter the kidneys and then be excreted? I am positive of the chylous nature of the urine, and also know that she has not voided any in the past eight years.

I shall now attempt to present the literature of this disorder as gathered from many channels. Its synonyms are "chyluria, chylous urine, diabetes lacteus, galacturia, lymphorrhagia." It is thus described by Bartels, in von Ziemssen's "Cyclopædia":

> "Chyluria is a peculiar form of albuminuria, in which the kidneys do not seem to be affected. Its exact nature is obscure. It is very common in tropical regions, especially Brazil and the southern tier of States in North America, but seldom met with in Europe. Cases which have fallen into the hands of European (or American) practitioners have been those who had either been born or who had lived the better part of their lives in the tropics. The urine in this disorder presents, on exceptional occasions, at long and rare intervals of time, an aspect which can easily be mistaken for milk; this appearance depends upon a quantity of *fatty* matter, stirred up into a fine emulsion and mixed with a secretion from the kidneys; in fact, the fat is so abundant as to form a thick cream upon the surface of the fluid. The *fat* furnished by urine of this kind conducts itself exactly like the fat of chyle, and hence the term chylous urine

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* Read before the Medical Society of the County of Westchester, November 16, 1886.

(chyluria), which has been employed to distinguish the disease. This chylous urine invariably contains a considerable quantity of albumin, and so large an amount of spontaneously coagulated albuminous clots in the fluid as to make the whole mass (on standing) to set into a soft milk-white jelly, which, from the presence of a few red blood-corpuscles entangled in it, may assume a rose-pink color. This coagulation of albumin may even take place in the bladder and offer some obstacle to micturition very similar to that caused by cantharides poisoning. As invariably present, as the fat and albumin are, in this chylous urine, we find red and white blood-cells, the characteristic formed elements of chyle. Renal casts are invariably found. Both aspect and character of this disease (or disorder) vary from time to time. For months the urine may be clear and transparent, and then all at once chylous urine is excreted. Thus the functions of the disease prolong its course over a series of years before the final termination is reached by exhaustion."

Pathologists do not know why the chyle should enter temporarily at one time and so persistently at another into the secretion of the kidneys. We shall have to content ourselves with the following hypothesis: that chyluria is due to some abnormal communication between the lymph- and chyle-vessels on the one side, and the kidneys on the other. It is easy to suppose that either in the kidney itself or in the renal passages there may exist some dilatation of the lymphatics, and that, by rupture of the walls of these, their contents may pass directly into the urinary passages. Positive proof, however, has not thus far been presented in a single case. In the mean time there are observations enough of the escape of chyle, as in consequence of dilatation of the lymphatics in other organs—for example, the penis, scrotum, etc. Chyluria, according to Copland, is rare. He says:

"If it occur in hysterical females, be careful lest they deceive you by mixing milk, blood, fat, or what not, in their urine *after* they have passed it."

Under date of January 15, 1880, my friend, Dr. Robert Abbe, wrote me:

"I find no filariæ in either the blood or urine you sent me. The latter was undoubtedly chylous."

Again, in October, 1886, Dr. Abbe writes me:

"The subject of chyluria has not been ventilated, as far as I know, in any of our journals or societies since my paper published in 'N. Y. Med. Jour.,' 1880, vol. xxxi, p. 129. The subject has been investigated abroad, however, and published in the English journals London 'Lancet' and 'Brit. Med. Jour.'—as follows in 'Lancet': Case of girl with scleroderma of upper half of the body, and filariæ in blood."—Bancroft, February 28, 1885.

Further on he writes:

"The man whose case I reported in 'N. Y. Med. Journal' subsequently came under observation at the N. Y. Hospital in 1883, where he was closely watched and studied again, until he died, when an autopsy revealed dilated lymphatics in the kidneys, but no parent filariæ. He had lymphatic tumors in the groin, which were also dissected out and examined, but no parent worm found. The nocturnal appearance of the filariæ, and their variation with the habits of the patient, were also verified."

In Bristowe's "Theory and Practice of Medicine," 1879, p. 793, I find:

"Chyluria, first recognized by Dr. Prout, is characterized by the occasional or continuous discharge of urine which is milky when passed, coagulates on standing into a tremulous mass resembling blanc mange, and then, becoming liquefied, furnishes a creamy scum and a pinkish or brownish sediment, exactly those conditions which would result from mixing normal urine and normal chyle. This fluid contains fibrin, albumin, fat, in a molecular form, like chyle; occasionally a small proportion of red corpuscles and leucocytes. No casts have ever been detected in it, or other evidence that the chylous material comes from the kidney. Cases of chyluria appear to be much more common in tropical than in temperate climates, more frequent in females than males, adults than children. This affection manifests itself for the most part suddenly, is liable to intermissions, and often, after lasting some time, disappears for years, or even for life. It presents no special symptoms except such as would result from a continuous drain of nutrient fluid."

I have also gathered from H. von Ziemssen, vol. vi, 1876, pp. 538–543, the following:

"In connection with lymphorrhagia, I have now to speak of chyluria, inasmuch as it most probably is nothing else than an escape of chyle into the urinary passages." This may be brought about "by perforation of the lacteals, by an animalcule discovered by T. R. Lewis quite recently, which he has named *Filaria sanguinis hominis*."

I also find in the "Med. Record," 1885, vol. xxvii, No. 22, p. 606, the following:

"At the Fourteenth Congress of the German Surgical Society, held in Berlin, April, 1885, Herr Grimm, of Berlin, presented the following on chyluria: 'He had, in conjunction with Herr J. Monk, instituted a number of experiments upon a patient suffering from chyluria, and found that the fats excreted in the urine corresponded exactly to those introduced into the intestines, and they concluded, therefore, that the fluid was chyle and not lymph.'"

Pathology.—Dr. Prout (in Bristowe, above quoted) attributes the disorder to two circumstances:

"One, a defect of assimilation which permitted the chyle to mingle with the blood without being converted into blood; the other, some renal default, in consequence of which the unchanged chyle was permitted to transude through the kidneys." But the blood has been examined in cases of chyluria, without the detection of anything abnormal in it. Bristowe has also the following:

"Dr. W. Roberts, basing his views partly on a case recorded by himself and partly on one published by Dr. Vandyke Carter, suggests the following explanation, which will probably prove to be correct for at least many cases—viz: That in *both* cases there was enlargement of lymphatic vessels of pelvic origin, which, when ruptured, yielded abundance of lymph, or chyle."

In von Ziemssen, vol. vi, pp. 538–543, I find:

"Up to quite lately we were all in the dark as to the cause of *chyluria*, which is so rare with us. Post-mortem gives only negative results. Most probable explanation seems to be a lymphorrhagia into the urinary passages. Anatomical proofs of such a cause are certainly wanting. *But* a perfectly *new light* is thrown upon this disorder by the discovery, by T. R. Lewis, of the embryo of a round worm, which he called '*Filaria sanguinis hominis*.' This worm is 0·35 mm. long and 0·0075 mm. broad, is contractile, finely striated transversely, transparent, and with a flat, ribbon-like appendix at each end.

These animals are sexually immature. He estimates their number in the blood of a chylous patient as from one to thirty in a drop of blood, and at 140,000 in the general circulation."

In the New Sydenham Society's "Lexicon of Medicine and the Allied Sciences," part x, vol. ii, 1884, the following on filariæ is not uninteresting:

"The sexually mature form has only been observed a few times, and of these only once has a male been discovered. It is conclusively proved that the embryo filariæ are only to be found during the night, or time of sleeping; no further develment of the embryo occurs in the human family." But it has been ascertained by Manson "that the intermediate host is the female of a mosquito of the genus *Culex*. This mosquito, perforating the skin (of a filarious patient) with her proboscis (male unable to do this), sucks in the filariæ with the blood. Many of these perish in the body of the mosquito, but some survive and undergo development to a certain extent, and, at the death of the mosquito, further development takes place; but from this stage to the presence of the fully developed worm in the lymphatic vessels nothing is known; probably they are taken into the alimentary canal of man in drinking-water, and bore their way into a lymphatic vessel, and are thence carried to their field of operations."

Treatment.—Bristowe says:

"Nothing appears to have been really efficacious except, perhaps, rest and astringents. Tonics may be needed to combat the anæmia." Dr. Bouym, of Demerara, cures it (chyluria) by a decoction of the mangrove-bark (*Rhizophora racemosa*). Astringents are the *only* remedies which seem to excite any influence over the disease, and of these gallic acid is the best." According to von Ziemssen, gallic acid may be given, ʒ j to ʒ ij per diem, with quinine and iron. Raya gave tincture cantharides, gtt. vj to x, in twenty-four hours. Harley gave potassium iodide internally, and an injection of gr. xv of the same to ℥ iij of water, into the bladder, to kill the worms.

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THE THERAPEUTICS OF ASTHMA.

Within the past few years the interest of medical men in the subject of the treatment of asthma has received a fresh impetus from the birth of a new theory of the pathology of the affection. As is well known, Hack and a number of other observers have drawn attention to abnormal changes in the turbinated bones, and in the mucous membrane of the nose and the pharynx, as the chief factors in the causation of a large percentage of the cases of asthma. Hack laid particular stress on swelling and hypertrophy of the inferior turbinated bones, and recorded several cures brought about by cauterizing or removing the hyperplastic tissue. Since the publication of his article, specialists and general practitioners have, with the aid of highly magnifying reflectors, seen hypertrophied turbinated bones in many an asthmatic patient, which there was a great temptation to reduce, either with some ingenious instrument, with the galvanic cautery, or with a powerful escharotic. Although the results have not been so gratifying as Hack's, they have gone far toward affording an apparent verification of his theory; for, if the so-called hypertrophied turbinated bones could be detected at first only with the aid of magnifying reflectors, it was not long before they were sufficiently hypertrophied to be distinct even to the naked eye.

The pendulum, however, is beginning to swing back, as is evident from a recent lively and protracted discussion at several consecutive meetings of the Berlin Medical Society. A number of speakers took part in the discussion, and there seemed to be a consensus of opinion that cases in which asthma was benefited by cauterizing the nasal mucous membrane or the turbinated bones were extremely rare. Such treatment, it was said, should not be employed until a careful examination had been made with a sound, the parts having been made anæsthetic with cocaine, and an area discovered a touch upon which would call forth an attack. Schadewald broached a novel method of treatment, based on his no less novel theory of the pathology of the disease. He maintained that bronchial, or true, asthma was due to a neurosis of the trigeminal nerves, and should be treated by faradization of those nerves, the applications being made during an attack, as, if made in the intervals, they would call forth a paroxysm. Lubinski emphasized his previous remarks as to the benefit to be derived from inhalations of pyridine, but the drug must be used with caution, as disagreeable and alarming symptoms may follow its injudicious use. Amyl nitrite, nitro-glycerin, and sodium nitrite act in the same way as pyridine, but all these remedies find their more appropriate application in cardiac asthma.

If any drug deserves the title of a specific in this affection, it is potassium iodide. The remedy was first recommended in asthma by Trousseau, but this use of it fell into oblivion for a number of years, to be only recently restored by the publications of Leyden and Germain Sée, the latter of whom recommends its administration with lactucarium. Potassium iodide is of great service also in the purulent bronchitis which occurs as a sequel to asthma. In many cases of this condition the various balsams are efficacious, and Lubinski has observed excellent results from the use of Peruvian balsam combined with myrrh, the former in doses of from a grain and a half to three grains three or four times a day. If there is really a nasal affection, it should be treated according to its character, and not on any far-fetched theory of its ætiological importance. But, in the treatment of asthma, it is of the greatest moment to distinguish true, or primary, asthma—by no means a common affection—from that which is secondary to disease of the heart or lungs. We need scarcely say that we have had only the former in view in this writing.

THE TRANSMISSION OF NEUROTIC PHENOMENA FROM ONE PERSON TO ANOTHER.

In a recent number of "Progrès médical," Babinski presents a collection of strange as well as interesting observations that he has made on hysterical patients, under the direction of Professor Charcot. Years ago, the curious observation was made in France that, under the influence of a metal—or, still better, a magnet—various manifestations of hysteria, such as anæsthesia, paralysis, contracture, etc., could be made to pass from one side of the body to the other, leaving the side previously affected normal. The transmission would recur spontaneously a certain number of times after a single application of the magnet, and to these recurrences Charcot gave the name of *oscillations consécutives.*

Babinski's observations have reference to the transmission, under the same conditions, of similar nervous phenomena from one patient to another. The patients are placed back to back, and not necessarily in contact, although the transfer takes place more rapidly when they touch each other than when they are sitting a short distance apart. The author divides his observations into two series. The first relates to two girls who were subject to hemianæsthesia and to attacks of hystero-epilepsy, passing at their climax into what Charcot has termed "grand hypnotism." The patients were placed in the position before mentioned, and a magnet was applied to the side of one of them. In a few moments it was noticed that one of the patients became anæsthetic in both sides of the body, while the other regained sensibility in the anæsthetic side, the unaffected side remaining normal. On removing the magnet or changing it from one side to the other, the girl that had had general anæsthesia regained sensibility in all parts of the body, and the other one presented a condition of general anæsthesia. The various forms of hysterical paralysis were induced in these patients by hypnotism and "suggestion," and the transmission of these induced phenomena recurred in the same way. So it was also with coxalgia and aphonia. But similar experiments were made on patients who were not hypnotized, and hypnotism itself was transmitted from one to the other.

The second series relates to hysterical subjects who had never been hypnotized, and in whom no manifestations of hysteria were induced by "suggestion." When they had been placed in the position mentioned, one of them was hypnotized, and a magnet was applied to the side. The hypnotized patient presented the same symptoms as were present on the same side in the other, but the transmission was not so well marked as in the subjects of the first series.

Babinski expresses the belief that these singular phenomena may be turned to practical account in the treatment of hysterical disorders, and he mentions one case of hysterical contracture of the upper extremity that was notably improved by the use of the method. Still, for the present, he is willing to wait for the developments which further researches may bring forth—and so are we.

MINOR PARAGRAPHS.

DR. GRANVILLE BANTOCK ON LISTERISM.

On the 26th of January the new president of the British Gynæcological Society, Dr. George Granville Bantock, delivered his inaugural address, entitled "Listerism; its Past, its Present, and its Future." We have received a manuscript copy of the address, for which we presume we are indebted to the author. Dr. Bantock is well known as a successful laparotomist and as a professed opponent of Listerism. In this address he argues in support of a statement made in one of the London newspapers, that the practice is "founded on a theory which has not been proved, and is probably not true." We have no doubt that the argument will be considered very cogent by those who dissent from the general faith in the Listerian theory, but it seems to be underlain by a few fallacies, some of which perhaps are more apparent than real. For example, too much importance seems to be given to the spray, which long ago ceased to be considered an essential part of the Listerian appliances. Far more delusive, however, are the inferences that rest on an assumed contrast between antisepticism and "cleanliness." The opponents of Listerism are never tired of parading their great regard for cleanliness, but they have thus far failed to tell us how cleanliness can be of any avail save as it is identical with freedom from germs. There appears to be a tinge of disingenuousness about the use made of the word cleanliness, suggesting a subterfuge that deserves to be looked upon as in reality a substantial argument in favor of Listerism; for Listerism is a principle, and not a code of procedure, although it may legitimately give rise to the latter. A frank recognition of the principle may lead one surgeon to adopt certain methods in practice, and an unwilling consciousness of it may impel another to certain others; and, yet, both may really be carrying out devices having no other discernible foundation than Listerism.

THE ILLINOIS STATE BOARD OF HEALTH.

The appearance of the board's Eighth Annual Report, for the year 1885, is a fresh reminder of the zeal and efficiency with which the duties of that body are performed. It is in many respects distinctly in advance of the previous volumes of the series, and will bear comparison with any similar publications issued in this country. A fair proportion of the volume is taken up with reports of sanitary surveys of individual towns.

The data thus furnished are of great value, not only to sanitarians, but also to those of the general public who have a personal interest in the localities reported on. The board is to be particularly commended for its persistent endeavors to perfect the vital statistics of the State, and we trust that it will continue to meet with hearty co-operation on the part of the profession, and that its hands may be strengthened, if necessary, by additional legislation.

SMALL VENTRAL HERNIAS AS A CAUSE OF GASTRIC SYMPTOMS.

In a recent number of the "Centralblatt für Chirurgie," Lücke, of Strassburg, reports two cases in which, acting on Kussmaul's statement, made several years ago, that obstinate and distressing gastric symptoms were sometimes occasioned by hernial protrusions of small fatty masses in the neighborhood of the umbilicus, he cut down upon the lobule of fat, tied it off from the omentum, and closed the abdominal wall with sutures. In both instances the result was satisfactory. König, one of the editors of the "Centralblatt," adds a note to the effect that for several years past he has operated on such hernias on account of their association with gastralgic and hypochondriacal symptoms, and with satisfactory results.

THE NEW YORK ORTHOPÆDIC DISPENSARY AND HOSPITAL.

We learn by the Nineteenth Annual Report of this excellent institution, for the year ending September 30, 1886, that fewer patients were treated during the period to which it relates than during the preceding year. It is added, however, that there were more applicants than ever before, but that, in consequence of the depleted state of the treasury, many of them could not be received. Such being the case, we may well credit the supervisors' statement that "the great necessity for the hospital is an endowment fund." It seems that all the beds but two have now been endowed, and the further needs of the hospital and dispensary ought certainly to be met promptly by those who have it in their power to help on so good a work.

THE "FOREIGN MEDICAL PRESS."

This is the title of a new weekly journal published in New York, the first number of which, dated February 1st, is made up of fourteen octavo pages of reading matter, consisting of abstracts from foreign publications. The editor is Mr. J. L. Stern. It is announced that the number of pages will be increased from time to time as "growing support warrants it," and that "a liberal support by the profession will insure a reduction in the price" (now $20 a year).

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 8, 1887:

DISEASES.	Week ending Feb. 1.		Week ending Feb. 8.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	0	1	0
Typhoid fever	12	3	7	5
Scarlet fever	40	10	36	2
Cerebro-spinal meningitis	3	3	4	3
Measles	484	61	406	58
Diphtheria	89	40	116	38
Small-pox	18	7	6	2

The Massachusetts Medical Society.—At the meeting of the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District branch, held on Wednesday, the 9th inst., Dr. H. C. Haven read a paper on "Infant Feeding," on which the discussion was opened by Dr. E. M. Buckingham. A case of "Thrombosis of the Left Vertebral Artery, with Autopsy," was reported by Dr. F. W. Stuart, and the discussion opened by Dr. W. N. Bullard. Dr. J. W. Farlow presented a series of five cases of large visible pulsating artery on the posterior wall of the pharynx.

The Philadelphia Clinical Society.—At a meeting held January 28th the following officers were elected for the ensuing year: Dr. James B. Walker, president; Dr. Mary E. Allen, first vice-president; Dr. Susan P. Stackhouse, second vice-president; Dr. L. Bremer Hall, treasurer; Dr. I. G. Heilman, recording secretary; Dr. Emma Musson, corresponding secretary; Dr. Mary Willits, reporting secretary; Dr. Edward R. Stone, Dr. Edward E. Montgomery, Dr. Amy S. Barton, Dr. A. Victoria Scott, and Dr. Hannah T. Croasdale, councillors.

The late Dr. John Van Vorst, Jr., of Jersey City.—At a meeting of the physicians of Hudson County, held at Franklin Hall last Saturday, a committee of three was appointed to draft resolutions of respect and sympathy for the family of Dr. John Van Vorst, Jr., who recently died of pneumonia. The committee presented the following, which were adopted:

Whereas, The sudden and unexpected demise of Dr. John Van Vorst, Jr., in the prime of life and in the full flush of professional success, has afflicted with sorrow not only his bereaved family but a vast host of friends to whom he had become endeared, it becomes us to express in this manner the sentiments of regard and attachment we have always entertained for him, and our appreciation of his moral worth, manly character, and professional qualifications:

Resolved, That in all our intercourse we found him social and unassuming in his disposition, prompt to duty, intelligent, and prudent in business transactions.

Resolved, That, appreciating their great personal loss, we hereby tender to his father and mother our sincere sympathy and condolence in their bereavement, and commend them to Him who doeth all things well, and whose mercy endureth for ever.

Resolved, That we attend his funeral in a body, and that these resolutions be published in the daily papers, and in the "Medical Record" and the "New York Medical Journal."

G. K. Dickinson,
T. F. Morris,
Walter Rae.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 30, 1887, to February 5, 1887:*

Brechemin, Louis, Captain and Assistant Surgeon. Granted leave of absence for four months, with permission to go beyond the sea, to take effect when his services can be spared by his department commander. S. O. 28, A. G. O., February 3, 1887.

Powell, Junius L., Captain and Assistant Surgeon. Granted leave of absence for two months, to take effect when his services can be spared by his department commander. S. O. 24, A. G. O., January 29, 1887.

Barrows, C. C., First Lieutenant and Assistant Surgeon. Ordered for temporary duty as post surgeon at Fort Barrancas, Florida, to take effect upon the expiration of his present leave of absence. S. O. 24, Division of the Atlantic, February 3, 1887.

Clendenin, Paul, First Lieutenant and Assistant Surgeon. Ordered for duty as post surgeon at Camp Pina Colorado, Texas. S. O. 14, Department of Texas, January 26, 1887.

Society Meetings for the Coming Week:

Monday, *February 14th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private—anniversary); Lenox Medical and Surgical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *February 15th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and Westchester (White Plains), N. Y.; Ogdensburg, N. Y., Medical Association.

Wednesday, *February 16th:* Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (Clinico-pathological).

Thursday, *February 17th:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *February 18th:* Chicago Gynæcological Society.

Saturday, *February 19th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Roman Medical Society (private).

OBITUARY NOTES.

William Thorndike, M. D., of Milwaukee, died on Saturday, January 29th, in the fifty-second year of his age. He was born in Beverly, Mass., and was graduated from the Harvard Medical School in 1857. He began practice in his native town. In 1862 he was appointed assistant surgeon in the Thirty-fourth Massachusetts regiment, and was subsequently made surgeon of the Thirty-ninth regiment, in which capacity he served until the close of the war. He had lived in Milwaukee since 1865, and was a member of the Wisconsin State Medical Society.

Joseph T. O. West, M. D., of Princeton, Mass., died on Friday, January 28th, at the age of sixty-nine. He was graduated from the Harvard Medical School in 1848, and for twenty-five years was the only physician in Princeton. He was a member of the Massachusetts Medical Society and of the Worcester, Mass., District Medical Society, of which he was one of the Councilors.

John Van Vorst, Jr., M. D., of Jersey City, died on Friday, the 4th inst., in the thirty-seventh year of his age. The deceased was a graduate of Bellevue Hospital Medical College, of the class of 1874, and was held in high esteem by his colleagues.

Proceedings of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of December 22, 1886.

The President, Dr. John A. Wyeth, in the Chair.

Syphilitic Lesions of the Lungs.—Dr. W. H. Porter presented a lung, removed the day before, which showed at the apex small nodules which he believed to be syphilitic gummata. They were sharply defined, and had a distinct fibrous capsule and a cheesy center. He had found these small gummata in different tissues, and had sought for tubercle bacilli, but had not succeeded in discovering any. He believed that in a good many cases the destructive process in the lung was of syphilitic origin, true tubercle and the tubercle bacillus being absent. He showed a pair of lungs which had undergone extensive lesions like those in the one first shown, and also a picture of another in which the pulmonary symptoms had begun a year after the initial lesion of syphilis, and terminated fatally a year later. Clinically, these cases were distinguished from tubercular cases by the complete or almost complete absence of pyrexia. This he would explain on the basis that in tubercular disease the tubercles broke down when they had reached a certain size and burst into the circumvascular spaces, so that morbid material was drawn into the lymph-vessels and produced septicæmia with its attending fever; whereas in syphilitic cases there was thickening of the alveolar walls throughout the lung, constituting a dense layer of fibrous connective tissue between the blood-vessels and the air-sacs, which prevented the entrance of the broken-down gummatous tissue into the lymph-vessels, it entered the bronchial tubes, and gave rise to abundant expectoration.

Castration for Suppurating Orchitis Six Months after Syphilitic Infection.—Dr. Schiff presented a testicle removed from a man who, about six months previously, had had gonorrhœa and two attacks of epididymitis on the same side. About a month after the exposure an initial lesion of syphilis was observed; and two months later the patient had alopecia, syphilitic patches in the mouth, and condylomata about the anus. There was also difficulty in the passage of urine. Three days ago (about six months after the exposure) the enlarged testicle was removed, and eight ounces of pus were let out. The diagnosis of syphilitic orchitis was based upon the history of the case.

Pyosalpinx.—Dr. H. J. Boldt presented an ovary and tube illustrating pyosalpinx occurring on the side opposite to that in which the patient had complained of pain. He also presented another tube and ovary removed for pyosalpinx. Both patients had recovered.

Urethral Calculus.—Dr. Boldt also presented a calculus, of about the size of a pea, removed from near the meat usurinarius in a boy fourteen years of age, who, in 1875, had begun to urinate in drops, and to have much tenesmus. In 1877 he began to have convulsions, according to the father's description, epileptic in character. The difficulty of urination had continued. The speaker removed the stone a few days ago, since which time the patient had had no trouble. No stones could be felt in the bladder. He was disposed to think that, owing to the small size of the stone, it had remained in the urethra during all those years, gradually increasing in size, and causing difficulty in micturition. It was too small to interfere with the flow had it been in the bladder.

The President thought it probable that the stone had been in the urethra; that it had gradually worked its way forward, and had been overlooked because of its small size. He had once removed several stones from the urethra of a man in whom they had given rise to no symptoms but a diminution of the size of the stream.

Cancer of the Vertebræ.—Dr. Amidon presented the lumbar and last dorsal vertebræ of a man, aged forty years, whom he had seen in consultation a year ago. In years past he had had several attacks of what was called lumbago, attributed to lifting heavy boxes. In March last he was seized with severe pain in the right side and leg, and afterward the left side was affected, and he also complained of some pain in the chest and abdomen. For the past few weeks he had been confined to bed, with constant pains in the legs and tenderness over the spine, most marked over the last dorsal vertebra. The speaker thought the liver felt hard and rough, suggesting cancer, and he had also diagnosticated cancer of the spine. The lymphatics were enlarged. The autopsy revealed small nodules in the liver, and cancerous infiltration and disintegration of the lumbar vertebræ, with almost complete destruction of the last dorsal vertebra and of the sacrum. There was also cancerous infiltration of the lung at one point, where signs of its presence had been recognized. Dr. Amidon also related the histories of two other cases of carcinoma of the spine. In one of them the diagnosis had been confirmed post mortem, and in the other the patient was now in a moribund state. He attributed the pain in these cases to the pressure of the neoplasm upon the spinal nerves as they passed through the inter-vertebral foramina. He was disposed to think that the carcinoma of the vertebræ was primary. Tenderness over the spine was generally considered to be an indication of functional rather than of organic disease, especially in patients of a hysterical tendency. But in all of these cases there had been marked tenderness over the spine, particularly on deep pressure, and he had observed the same fact in a child who, he thought, had a tubercular deposit at the seat of the pain. In this case, also, the autopsy verified the diagnosis.

Dr. Mendelson related the history of a case of carcinoma of the vertebræ which was interesting from the conflicting diagnoses. There had been no deformity, and but little pain on pressure.

Dr. Prudden thought the primary seat of the cancer in Dr. Amidon's case might have been the liver. Neither the small size of the nodules in the liver nor the great infiltration of the vertebræ was evidence of the disease having begun in the vertebræ. Primary cancer of bones was considered to be very rare, if, indeed, it ever existed. The development of carcinoma in the first place in bones and in the omentum had been regarded as evidence against the epithelial origin of cancer, but it had been shown that the peritonæum was simply an outgrowth from the alimentary canal; and as to the few cases reported as primary cancer of the bones, he thought it probable that sufficient search had not been made for the disease in other tissues.

Dr. Porter had seen several cases of what he had supposed to be cancer of the vertebræ, but the amount of infiltration had raised suspicions of sarcoma, which closer examination had confirmed.

NEW YORK SURGICAL SOCIETY.

Meeting of January 12, 1887.

The President, Dr. Charles McBurney, in the Chair.

Inguinal Colotomy.—Dr. Lange presented two patients showing the result of the operation, which he described as follows: "It is a well-known fact that in the operation of colotomy, inguinal as well as lumbar, in which merely a lateral opening in the gut has been made, the contents of the latter will, as a rule, escape to some extent into the intestine below the wound, and, being forced upward by antiperistaltic action, will prolong and render difficult the process of defecation. I must confess that in nearly all of my cases of colotomy which were performed according to this method the result in regard to this point had been unsatisfactory until I adopted Hadelung's plan of cutting across the entire gut, closing the end of the lower portion, and stitching the upper end into the abdominal wound. The result was perfect, so far as concerned defecation; the patient passed fæces once or twice a day in a short period of time, and was free from all annoyance during the rest of the day. From reading a discussion that took place at the Paris *Société de chirurgie*, my attention was called to the possibility of danger eventually arising from retention in the closed portion of gut above the point of stricture, and I therefore adopted in my last three cases Verneuil's plan of forming a spur, and thus securing the complete evacuation of the fæces through the artificial anus, while at the same time the interior of the lower portion of the gut remained accessible. The technique of the inguinal operation is as follows: Under strict antiseptic precautions, an incision is made parallel with Poupart's ligament and about three centimetres above its outer third. The peritonæum is opened to the extent of not more than three or four centimetres, a loop of the colon, in the region of the sigmoid flexure, is brought into the wound, and a needle, armed with a coarse catgut ligature, is passed under the gut at the point of attachment of the mesentery; the ligature is not tied, but serves merely as a handle. A spur is then formed by passing through a part of the intestinal wall on both sides of the mesentery a fine needle threaded with iodoform catgut, the line of stitches being about equal to the thickness of the abdominal wall, or perhaps a little larger. Then by similar sutures the opposed parietal and visceral peritoneal surfaces are brought in contact, so that the peritoneal cavity is entirely shut off from the wound, and the loop of intestine, so far as its peritoneal surfaces had been approximated by stitches, is secured above the level of the parietal peritonæum. The gut is then opened by an incision extending in a transverse direction toward the attachment of the mesentery, the edges being united to the integument by a few sutures of silk-worm gut. Some iodoform gauze is introduced into the peritoneal space at each angle of the wound; this promotes good drainage during the first twenty-four hours. The wound is dressed with vaseline and iodoform-powder. I have performed this operation three times, the three operations occurring at the German Hospital within a period of fourteen days. Two of the patients had inoperable cancer of the rectum, the third an extensive syphilitic stricture. Recovery followed rapidly in each instance, without any unfavorable symptoms, and the final result is so satisfactory that I feel justified in recommending this method.

"I now present two of the patients to the society. In one of them you observe that there is a slight prolapse of the mucous membrane, which the patient attributes to the fact that to-day she did not properly adjust the elastic belt which retains a pad of cotton against the opening. These patients, as well as the third, who could not be present, discharge their fæces through the artificial anus. Defecation occurs once or twice daily, and occupies only a few minutes. The lower portion of the gut can easily be washed out by introducing a thick rubber tube into the rectum, seating the patient upon a chamber, and injecting fluid through the artificial anus. This procedure is an important one, especially in the case of syphilitic stricture. The history of this patient I shall mention briefly. She is a married lady, about thirty-six years of age, who contracted syphilis from her first husband. I treated her for about six years for stricture of the rectum, accompanied with extensive and obstinate ulceration; colotomy was proposed long ago, but she would not consent to it. In October, 1886, a severe pelvic peritonitis developed, apparently due to extension of the ulceration to the intestine above the seat of stricture; there was considerable exudation, and an abscess formed that was evacuated through an incision made on the right side above Poupart's ligament. It was necessary to separate adherent coils of intestine in order to reach a large collection of extremely fœtid pus, which filled the entire true pelvis. A counter-opening was made in the vaginal fornix. Within a few weeks the patient rallied sufficiently to admit of the performance of inguinal colotomy. In spite of her miserable condition, recovery was perfect, and her strength and state of nutrition have been greatly improved. There is still a discharge of pus and blood from the rectum, but there is much less than before."

Dr. Sands remarked that three days before he had been summoned to the country to perform colotomy upon a gentleman suffering with cancer of the rectum. He made the usual lumbar incision, and had no difficulty in recognizing the various layers of tissue until the peritonæum was reached. Thinking that he had identified the latter, he proceeded to puncture it cautiously, when a clear, serous fluid escaped. Seizing what he supposed was the colon, he proceeded to stitch it into the wound, intending to leave it for twenty-four hours before incising it, in order that the parietal and visceral serous surfaces might become adherent. The needle that he employed made such a large puncture that he judged it expedient to open the gut at once, which was accomplished successfully. This case was the only one in which he had failed to open the colon behind the peritonæum; the failure was undoubtedly due to the complete investment of the colon by the serous membrane. The late Dr. Mason encountered two similar cases, and wrote a paper in which he called attention to the fact that the colon sometimes took an abnormal course. In one instance the operation of colotomy was being performed at Charity Hospital, and a portion of gut was exposed which, in the opinion of several surgeons who were present, was large intestine. At the autopsy it was found that a loop of small intestine had been fastened in the wound. It was better, the speaker thought, to seize and secure the small intestine if it appeared in the wound, rather than to spend too much time in searching for the colon; danger would be best avoided by suturing the gut to the wound and waiting for adhesion to take place before opening it.*

Dr. Gerster said that, after witnessing one of Dr. Lange's operations, he had been so much pleased with the idea that he adopted it in the case of two patients upon whom he performed inguinal colotomy the same afternoon. He preferred the inguinal to the lumbar incision, not only because it was easier to reach the intestine by the former method, but because the patients found it much easier to cleanse themselves when the artificial anus was in front. There was no doubt that it was often a difficult matter to find the colon in lumbar colotomy, especially when it was not blown up, so that the surgeon was often obliged to content himself with the next best thing—a loop of small intestine; moreover, it was necessary to divide a number of thick strata before reaching the cavity. In the inguinal operation, on the contrary, the abdominal wall was much thinner, it was easier to recognize the gut, and the subsequent introduction of sutures was less difficult. In one of the speaker's cases fæces escaped into the lower portion of the bowel for two or three months, because the spur that had been formed was made too short. By the subsequent contraction of the parts, however, this was corrected. The suture was very much facilitated by seizing the parietal peritonæum on each side with an artery-forceps, and drawing it well out, when it was quite easy to unite the two serous membranes in extensive contact.

Dr. Sands remarked that a German writer had laid much stress upon the importance of uniting the parietal and visceral peritonæum before opening the gut; he first stitched the parietal peritonæum to the skin, and then the former to the serous covering of the intestine, thereby securing perfect adhesion of the latter to the edges of the wound. Dr. Sands's experience had been different from that of Dr. Gerster; one of the three patients upon whom he had performed lumbar colotomy, and who was under observation for six months, had been much annoyed by the escape of fæces from the opening. They seemed to be retained better after lumbar colotomy.

Dr. Gerster said that he had been misunderstood; he only referred to the greater ease with which the patient could cleanse himself when the artificial anus was situated anteriorly. The escape of fæces could often be prevented by making the incision in the abdominal wall only as long as was absolutely necessary. If it was too long, prolapse was apt to occur. In one of his cases, where the intestine was small and its wall thin and the abdominal incision too ample, there was afterward some prolapse; in the other a small incision was made, and there was no prolapse, a perfect funnel-shaped opening resulting. The final result of the operation, regarding the shape of the artificial anus, depended, to a great extent, on the local peculiarities of the abdominal walls and of the gut of different individuals.

Dr. Lange said that in his cases the contents of the bowel had, as a rule, been discharged only once or twice after the operation. When the intestine was merely opened by a lateral incision, the fæcal matter was apt to pass by the opening into the lower portion of the colon, and to be regurgitated in consequence of the antiperistaltic action, thus causing the patient great annoyance.

A New Radical Operation for Hæmorrhoids.—Dr. Lange prefaced his description of the operation by stating that, in mild cases, he had obtained good results by injecting equal parts of glycerin and pure carbolic acid. In severe cases, complicated with prolapse of the mucous membrane, he had adopted a method of operation that was to be commended not only on account of its facility and the completeness of the cure, but because of the fact that it was not followed by suppuration and necrosis of the tissues. It consisted in excising the entire affected portion of the mucous membrane, and in suturing the edge of the remaining part to the integument. The essential advantages were the perfectly aseptic character of the process, and the small loss of blood. Dr. Lange described the operation briefly as follows: "After the patient has been duly prepared by proper attention to diet and the thorough evacuation of the bowels, a sponge pushed high up into the rectum, and the lower part of the gut thoroughly irrigated with a weak solution of corrosive sublimate, followed by one of boro-salicylic acid, the patient is thoroughly anæsthetized, so as to avoid straining and consequent venous congestion. The field of operation is constantly irrigated with an ice-cold boro-salicylic solution. An incision is carried around the anal orifice at the line of junction between the skin and mucous membrane, the parts being put on the stretch by making traction with tenacula. If the skin is flabby and in excess, a portion of it may be included within the incision; the latter is carried downward until it reaches the fibers of the external sphincter, the distended hæmorrhoids being easily avoided. The mucous membrane is easily separated from the sphincter as far upward as may be deemed necessary. In this way the entire degenerated portion is isolated, and, as far as the arterial blood-supply is concerned, remains connected with the healthy tissue only by the vessels that supply it. So far but few bleeding points require to be secured. If now the entire diseased part were excised, there would undoubtedly be a considerable loss of blood, as occurred in my first case, the mucous membrane would retract as it was divided, and the operation would be long and embarrassing. I therefore insert a number of buried sutures of iodoform-catgut close to each other between the base of the external flap and that of the separated mucous membrane; these do not include any of the fibers of the sphincter, neither do they penetrate into the rectum. I lay particular stress upon the avoidance of the sphincter, since I have observed in several cases that the patient suffers from severe tenesmus if the stitches penetrate the sphincter.

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* The patient operated on by Dr. Sands made a prompt recovery, and was convalescent when heard from ten days afterward.

The sutures may be either continuous or interrupted; they secure nearly all the vessels supplying the hæmorrhoidal portion. The mucous membrane is excised in parts at a point from one half to one centimetre above this line of sutures, and the cut edges are approximated by sutures of silk-worm gut. In several instances I have passed deep stitches which included the entire sphincter, in order to diminish the tension; but I think that these can be dispensed with. From the beginning of the third day following the operation the patient is allowed to have a passage daily, and is kept on liquid diet for a week, at the end of which time the sutures may be removed. A few days later he may be allowed to get up, and at the beginning of the third week he will, in my experience, be able to attend to his business. Much of the success of this operation depends upon the technique. I can testify, from my experience in about a dozen cases, that the rapidity and completeness of the healing process, the comfort of the patient, and, in short, the neatness of the entire procedure, have induced me to prefer it in suitable cases to other methods (Allingham's, Langenbeck's, etc.). Strict antisepsis and the avoidance of hæmorrhage, in the manner described, I regard as indispensable to success." [A patient was presented upon whom the operation had been performed three weeks before.]

Complete Excision of Fistula in Ano.—Dr. Lange presented a patient upon whom he had performed the operation, and made the following remarks: "Year before last I suggested, at a meeting of this society, the advisability of treating fistula by excision of the entire fistulous tract, the raw surfaces being brought together with sutures, with the view of securing healing by first intention. I described a certain method, but my experience at that time was derived from a few operations, the results of which were only partly successful, though encouraging. The first operation was performed two years ago upon a lady who had a deep-seated fistula, the internal opening of which was situated two or three inches above the sphincter. She was perfectly cured in two weeks. Since then I have had about a dozen cases, in which the extent of the lesion and the gravity of the operation varied, the results being as follows: In four cases primary union occurred without suppuration; in three a similar result was obtained with but slight suppuration; in four the wound healed by granulation, in a shorter time than it would have done after one of the old operations. In one instance I did not sew up the wound at all on account of inflammatory infiltration of the edges; in another, that of a gentleman whom I had treated during the acute stage of a very extensive gangrenous periproctitis, there was so much cicatricial tissue that I did not venture to excise it all, for fear of removing so much of the muscle that incontinence might result. This patient has still an internal fistula, which causes no inconvenience, except a slight discharge.

"My technique has been essentially the same as that described at a former meeting, viz., excision of the entire fistulous tract, together with all the lateral sinuses, such as not infrequently exist in the cellulo-adipose tissue above the sphincters, and union of the deep tissues by means of buried sutures of iodoform-catgut, as well as accurate adaptation of the edges of the mucous membrane. Several include the entire field of operation, in order to relieve the tension of the parts. The field of operation is constantly irrigated with boro-salicylic solution. The edges of the integument I prefer to unite by only a few sutures, in order to allow drainage of the first secretion. Opium is administered during the first two days; after the second day the bowels are moved easily with injections, a sitz-bath being used after defecation. I have performed this operation only once in a case of fistula of tuberculous origin, the result being perfect. There was a large shallow sinus, which did not communicate with the rectum—a condition which, in my experience, is not infrequent in tuberculous fistulæ. I am skeptical regarding the existence of so-called incomplete external fistula in any other cases, having always succeeded in finding the internal opening, except once in a dermoid fistula. Neither do I accept the general opinion that muscular contraction prevents a fistula in ano from healing; it is very probable that entrance of obnoxious matter into the sinus causes repeated attacks of inflammation and accounts for the chronic nature of the affection. In the last patient, upon whom I operated a few days ago, I did not find an internal opening, its former site being occupied by a slight elevation covered by a thin cicatricial tissue. This was probably only transient cicatrization. In the 'Medical Record' of June, 1886, Dr. Stephen Smith published a paper on this subject, in which he stated that in 1879 he conceived the idea of treating fistula in this manner after reading in Dr. Emmet's book a description of that gentleman's plastic operation upon the perinæum. At that time Dr. Smith excised the granulating surface of a fistula that had been operated upon unsuccessfully six months before; consequently, that operation was scarcely applied to a fistula proper. He does not state just when he adopted the method described by him, but if it was immediately after the operation above mentioned, he was probably the first surgeon to practice it. I take the liberty of claiming priority in my description of the details of the operation, and especially the use of antiseptic precautions, which differs in no essential feature from that given by him.

"The patient before you had a very extensive V-shaped sinus, one branch of which ran high up, parallel with the rectum, the external opening being situated about four inches to the right of the anus, while the internal was above the external sphincter. After the operation an enormous cavity was left, into which the fist might have been inserted. In this case the internal wound was only partially closed, and was drained with iodoform-gauze. The operation lasted several hours, and in fact could not be completed on account of the failing light. Recovery was interrupted by the occurrence of retention after transient apparent healing. She now has perfect control of her bowels, and does not suffer from diarrhœa. The sphincter in the last case is not perfectly sound."

Dr. Hall asked how soon the bowels were moved after the operation.

Dr. Lange replied that at first he allowed them to remain constipated for from ten to fourteen days, but now he ordered an enema of oil the morning of the second day, and a laxative the same evening, so as to insure a soft stool on the third day.

Dr. Sands did not see what advantages were alleged for the new operation for hæmorrhoids, but he presumed that its purpose was to avoid the hæmorrhage which was so much dreaded by the older surgeons. He thought that most of the members of the society were partial to the use of the ligature, especially in cases in which there was much prolapse; a certain amount of inflammation took place around the ligature, which favored adhesion of the intestine to the adjacent parts, thereby guarding against further protrusion. The old operation of Allingham was perfectly satisfactory, and the surgeon, after performing it, could leave his patient, feeling that there was no danger of hæmorrhage. The speaker did not attempt to strip off the mass at all, but simply incised the skin around the base of the pile sufficiently to allow the complete burying of the ligature, and, the mucous membrane being drawn down as far as possible, the risk of subsequent stricture was avoided. It would require a good deal of argument to induce him to abandon the old operation. He had practiced the method of complete excision of anal fistula in four cases, but only once successfully. Only small, straight fistulæ could be excised with the expectation of their healing by first intention; in complicated fistulæ it would be necessary to remove a good deal of tissue, which in the vicinity of the anus was particularly undesirable, in view of the subsequent cicatricial contraction. The operation was certainly not adapted to all cases. Fistulæ could be cured by simply scraping out the tract.

Dr. Lange admitted that the method was not applicable to every case, but it could be employed successfully even in cases of tortuous sinuses, extending high up the rectum; moreover, the result was equally good when the wound was not closed, but was allowed to heal by granulation. It was important, however, to bring the edges of the mucous membrane in apposition, as healing was retarded by contact with fæcal matter.

Excision of the Ankle Joint.—The President presented a patient showing the results of excision, whose history was as follows: A girl, aged eighteen, colored, was admitted into St. Luke's Hospital, March 11, 1885. About a year before her admission she had sprained her ankle severely, and suppurative synovitis followed; the pus had been evacuated by incisions. Her family history was phthisical. On admission, her ankle was swollen and tender, and evidently contained fluid; a sinus behind the internal malleolus communicated with the interior of the joint. On the 31st of March the speaker excised the joint, making a curved incision behind each malleolus, and removing the lower end of the tibia and fibula by a horizontal section, as well as the entire upper surface of the astragalus by a parallel cut. The limb was put up in a permanent dressing, covered with plaster of Paris, and so retained till April 28th. The wound healed perfectly in eight weeks, since which time the patient had walked with ease, limping only slightly. Slight subcutaneous suppuration occurred recently, which healed at once after scraping. Motion was now quite free, and the joint was strong. The shortening amounted to seven eighths of an inch.

Case of Aneurysm of the Innominate Artery treated by Ligature of the Carotid and Subclavian.—The President also showed a patient with the following history: An Irishman, aged thirty-five, was admitted into St. Luke's Hospital, March 9, 1886. He was probably syphilitic. Two weeks previously he had noticed a tumor on the right side of the neck, just above the inner end of the clavicle; a week later he became hoarse, and at the time of his admission he could speak only in a whisper. The tumor was evidently of an aneurysmal character and was considered by the speaker and his colleagues to be an aneurysm of the innominate artery, involving probably the commencement of the carotid and subclavian arteries. Pulsation was very marked, and was readily felt to affect the upper end of the sternum, the inner end of the clavicle, and the first two intercostal spaces. On April 16th it was found that the tumor had grown decidedly, and then measured three inches and three quarters transversely and extended to a point a little above the cricoid cartilage, displacing the trachea to the left. The hoarseness was considered due to tension of the right recurrent laryngeal nerve. The patient was kept in bed and received ten grains of iodide of potassium three times a day until April 16th, during which interval the tumor became somewhat larger. On April 20th a catgut ligature was applied to the carotid in its upper portion, and another to the third part of the subclavian. Pulsation almost entirely ceased in the tumor. The wounds healed very rapidly. On May 26th the patient was put upon strict diet according to Tufnell's plan, and was kept in bed until July 28th, since which time he had been about the ward, and had taken the ordinary diet. The tumor had steadily diminished in size, and was now considerably less than one fourth of its original size, the wall of the sac being thick and firm. The voice was only slightly hoarse.

The Treatment of Fractured Patella.—A paper with this title was read by Dr. J. D. Rushmore, of Brooklyn. [See page 172.]

Dr. Abbe exhibited a specimen and related the case of a young lady who suffered an oblique fracture of the lower third of the patella, the fragments being widely separated. As she was very anxious to have a sound limb, and was willing to take the risk, he exposed the bone, under strict antiseptic precautions, and found a fracture with two inches separation, the fractured surface of each fragment being covered by a dense layer of torn white fibrous tissue. This was the normal prepatellar tissue, torn like two fringes and so disposed over the bone that osseous union would have been impossible, even if coaptation had been obtained. These fringes were cut away and were the specimen exhibited. The patella was wired with silver, the joint irrigated with sublimate (1 to 5,000), and drained laterally. Primary union, without joint disturbance, followed. Three months had elapsed; the patella was one solid bone. The patient was walking with a cane, and without splints. Fibrous ankylosis existed which bade fair to yield in the course of time and seemed largely extra-capsular, but at present allowed of flexion only of about ten degrees.

The speaker thought there was always some risk of ankylosis following this method, but that with improved technique this would be done away with. One step toward improvement would be in leaving a drainage-tube in the interior of the joint as short a time as possible, and perhaps doing away with it altogether. In the worst event he believed a partly ankylosed knee with a solid patella was better than a weak, unreliable knee with gaping fragments. If a joint suppurated, he believed it was always due to contamination from defective antisepsis.

Dr. Lange said that he had heard with much interest the reference to the fibrous tissue that was found covering the ends of the fragments, since he had noticed the same appearance. He had performed the operation of wiring the patella in five cases, and believed that it was safe and reliable, provided the surgeon exercised proper care. He had so far operated on special indications only.

The first patient was a stewardess on board a steamer, who wished particularly to have a reliable limb in order to be able to go up and down the steep ship-staircases Her living depended on that.

The second patient was a lady who many years before had had amputation of the thigh of the opposite side.

The third one had fractured both patellæ several years ago. There existed a very wide gap, but the limb was partially useful. On the side of the operation the fracture had been of more recent occurrence, and, though the distance between the fragments was considerable, the latter could, with some difficulty, be approximated.

In all of these cases, in two of which the operation was done within eight to ten days after the occurrence, complete recovery took place and the limbs had become very useful.

The fourth case was that of a vigorous man who, after a fracture near the attachment of the ligamentum patellæ, had lost all control over the extension of his leg and depended upon wearing an apparatus. There existed a pretty wide diastasis of the fragments, which could be brought in contact only after the quadriceps tendon had been partially cut across at several points, and finally entirely cut across at some distance higher up, between the muscular bellies of the vasti. The capsule had also to be incised freely. The fragments were forcibly drawn together by coarse silk ligatures. This man got a stiff but useful limb. The speaker could not tell whether a slight motion which existed at the beginning had improved or not. The shape of the patella and its lower surface were so irregular that the latter had to be smoothed. Probably a comminuted fracture had taken place originally.

The fifth case was not equally favorable. A strong man, about thirty years old, fond of athletics, had fractured his patella near the upper margin. There existed extensive extravasation and rupture of the capsule. The operation was done on the third day after the injury, the patient himself being anxious to secure the best result obtainable. Only a mild antiseptic (borosalicylic solution) was used during the operation. The patient did not behave so quietly as he ought to have done after the operation, and made very unwise movements with his limb. Suppuration set in and the limb became almost entirely stiff, the semilunar cartilages having been detached by necrosis. Probably it would have been wiser to delay the operation until absorption of the extensive extravasation had taken place.

In all of the cases, except one, strong silk-worm gut was used for the bone suture.

Dr. **Hall** stated that he had wired the fragments of the patella in two cases of recent fracture. In both instances he had found coagulated blood between the edges, the extravasation in one case being very extensive, and having ruptured into one of the prepatellar bursæ, so that the patella could with difficulty be felt. Aspiration was unsuccessful, as the blood was coagulated, and, fearing much stiffness on account of the hæmarthrosis, he resorted to suturing. Bony union was obtained in both instances. Silver wire of one sixteenth of an inch was used. The special interest of the cases lay in the fact that there was no interposition of fibrous tissue, the fragments being separated to the extent of half an inch by a firm blood-clot; particular attention was called to this, as the other condition had been described as invariable, and as being the cause of non-union. In a case of old fracture, recently seen, only the upper corner of the bone was broken off, with practically no separation and no interference with the insertion of the quadriceps femoris into the larger fragment, so that the patient had perfect use of the leg, although union did not occur.

Dr. **Sands** asked concerning the amount of motion in the injured limbs.

Dr. **Hall** replied that one of the patients could flex the limb only about 15° when the dressings were removed, but three or four weeks later, when last seen, had motion almost to a right angle and was improving daily. No passive motion had been employed. In the other case flexion was limited to about 12°, but the range of motion would undoubtedly be greater in the course of three or four months.

Dr. **Peters** asked how long the dressings were retained, to which Dr. **Hall** replied, for six or seven weeks.

Dr. **Lange** remarked that he had obtained good results with sutures of coarse silk-worm gut.

Dr. **Sands** thought that all surgeons had found the treatment of fractured patella unsatisfactory, it being impossible to maintain perfect apposition of the fragments. Treves had recently recommended anew the use of Malgaigne's hooks, piercing the joint and imbedding them firmly in the fragments, due antiseptic precautions being employed. The speaker rather liked this treatment. After all, it was not so important to obtain bony union, as the patients could get on very well without it. However, the best results would, doubtless, be obtained when surgeons were able to open the joint safely every time, and to wire the fragments. It should be remembered that this was yet a serious operation, which was sometimes followed by suppuration, ankylosis, or even by death. He had found that patients rarely wished to run any risk when the nature of the operation was frankly stated to them. Even when successful, the operation often left some stiffness of the joint, with diminished flexion, on account of the thickening which attended the healing process. The speaker confessed that he at present occupied a decidedly conservative position with regard to the operation, and would be unwilling to have it performed upon himself. But he was confident that the dangers now attending it would be finally overcome.

Dr. **Weir** explained that Mr. Treves's method of introducing the hooks was quite simple. He relied upon the maintenance of perfect cleanliness by means of water.

Dr. **Hall** thought that a Philadelphia surgeon had written a paper some years before in which he reported fifty cases of fractured patella, in the treatment of which Malgaigne's hooks had been used with good results.

The **President** thought that the radical operation should be more carefully studied before it was generally advised, since its remote consequences were not always satisfactory. He had observed a case in which bony union had been obtained by wiring the fragments; but three months after they separated on the application of slight force. In another instance suppuration occurred, and motion was subsequently limited to 15°. Another case of suppuration was reported at Bellevue Hospital.

Dr. **Poore** asked if it was not true that the joint was frequently stiff after the operation.

Dr. **Lange** replied that this depended to a great extent upon the after-treatment. In three of his cases there was perfect mobility, while in the others motion was limited. The condition, doubtless, improved in time under the influence of massage and passive motion.

Book Notices.

A System of Practical Medicine. By American authors. Edited by **William Pepper**, M. D., LL. D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, assisted by **Louis Starr**, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Volume V. Diseases of the Nervous System. Philadelphia: Lea Brothers & Co., 1886. Pp. 10-19 to 1317.

To mention in detail the subjects treated in this volume and the names of their authors would be to enumerate most of our prominent specialists in the department of nervous diseases, and give a full list of the subjects that are included in that specialty. The volume comprises, in fact, a very complete series of monographs. Articles on Myalgia, Progressive Muscular Atrophy, and Pseudo-hypertrophic Paralysis are to be found in the fourth volume, and these round out the list of nervous diseases, for few would cavil at the placing of such affections as hay-asthma, angina pectoris, and exophthalmic goître under other headings.

This volume contains forty-four titles, and manifestly it will be impossible to do more than glance at a few of them in this notice. The first two are by Dr. E. C. Seguin—viz., on General Semeiology of Diseases of the Nervous System, Data of Diagnosis, and on the Localization of Lesions in the Nervous System. In the first he takes up in order the various groups of symptoms, defining them strictly, differentiating and illustrating them, and giving their relations and significance in a running commentary, the perusal of which leaves one with a gratified sense of scientific thoroughness. In the second article the style rather suffers from an excessive technicality, and the employment of specialized terms is so constant that the old rhyme involuntarily recurs to one's mind—

> "All a rhetorician's rules
> But teach him how to name his tools,"

though, truly, he who will master the language may here find substance enough for thought and study.

Dr. H. C. Wood deserves the thanks of the profession for his brief article on Neurasthenia. Though he uses the all-too-convenient word coined by the late Dr. George M. Beard, his sections on ætiology and symptoms restrict its application and vastly improve its standing, while the details given under the heading of Treatment will prove of great service in other diseased conditions as well as in this.

On the subject of Headache, including Migraine, Dr. Wharton Sinkler has little to tell us that is new, although his classification of the varieties of headache may prove serviceable. He is disposed to agree with Anstie in considering migraine as probably a neuralgia of the ophthalmic division of the fifth pair, and it will be observed that Dr. J. J. Putnam (Neuralgia, p. 1216 of this vol.) takes a similar view.

Treating of Vertigo, Dr. S. Weir Mitchell devotes the greater part of his space to the question of ætiology. He evidently leans toward an analogy between the phenomena of vertigo and those of epilepsy, and describes a "status vertiginosus," where the disorder ceases to owe its onsets to extra-central irritations, and becomes essential, precisely as happens in some epileptics.

The article on Alcoholism, by Dr. James C. Wilson, is one of the longest in the volume, but not longer than the interest and importance of the subject demand. It is written with the directness and confidence which spring from conviction and familiarity with the matter in hand, while the moderation of the views expressed, especially where the physiological action of alcohol upon the nervous system and upon nutrition is discussed, is in agreeable contrast with the overdrawn statements of popular temperance advocates.

The subject of Tumors of the Brain and its Envelopes receives scholarly and systematic treatment at the hands of Dr. Charles K. Mills and Dr. James Hendric Lloyd. Two closely related points may be said to possess the most interest for the professional reader of to-day on this topic. The first is the degree of accuracy with which the modern study of the localization of cerebral lesions makes it possible to determine the seat of an intra-cranial tumor. The second stands in the position of a corollary to the first, and concerns the possibility of surgical interference in such cases. For the study and illustration of both of these points the table of one hundred cases appended to the article furnishes ample and most accessible material, while the text also covers both, and, in addition, carefully considered views on the limitations of diagnosis, as well as on the ætiology, pathology, etc.

It is to be feared that even the guarded expression of opinion by Dr. Mary Putnam Jacobi on the prognosis in infantile spinal paralysis would hardly be echoed by most New York practitioners who have seen much of this disease, in spite of the more favorable views quoted from Duchenne. Dr. Putnam Jacobi has introduced an interesting novelty by devoting a section to the prodromes, and the article throughout is a mine of references to the literature of the subject.

We must here bring to a close what we have to say on this volume and on the work which it completes. One word of regret rather than of criticism is that even a supervising editor can not secure perfect correspondence in the value assigned to certain subordinate causative conditions which may be incidentally treated of by the writers of different leading articles. For instance, when Dr. Weir Mitchell speaks, as he often does, of lithæmia and of hysteria, it rouses a curiosity which can not be gratified to know in more detail how closely he agrees with Dr. Bartholow and Dr. Mills, who treat of those conditions systematically. Taken altogether, however, it must be conceded that in this undertaking a most happy mean has been reached between the text-book on medicine by one man, howsoever learned and brilliant he may be, and those encyclopædic systems the first volumes of which are superannuated long ere the last has issued from the press.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

Baillière, Tindall, & Cox, London.—W. H. Day, "On Irritable Brain in Children." —— A. Rabagliata, "Some Remarks on the Classification and Nomenclature of Diseases."

Cassell & Co., London.—C. Dukes, "Health at School." New ed.

J. & A. Churchill, London.—C. N. Macnamara, "Diseases of Bones and Joints." 3d ed.

Kegan Paul, Trench, & Co., London.—F. Jordon, "Anatomy and Physiology in Character."

H. K. Lewis, London.—A. Collie, "On Fevers."

Macmillan & Co., London.—H. E. Roscoe and C. Schorlemmer, "Treatise on Chemistry." Vol. iii.

Smith, Elder, & Co., London.—A. M. Marshall and C. H. Hurst, "A Junior Course of Practical Zoölogy."

Williams & Norgate, London.—C. A. Gordon, "New Theory and Old Practice in relation to Medicine and Certain Industries."

F. Alcan, Paris.—E. Demange, "Étude clinique et anatomo-pathologique sur la vieillesse." (4*fr.*)

J. B. Baillière et fils, Paris.—A. de Störck, "Étude de thérapeutique expérimentale." Transl. by H. Piedvache. (6*fr.*)

A. Delahaye et E. Lecrosnier, Paris.—C. Letourneau, "Bibliothèque anthropologique," vol. iii. (7*fr.* 50.) —— Hovelacque and Hervé, "Bibliothèque anthropologique," vol. iv. (10*fr.*)——J. Lucas-Championnière, "Cure radicale des hernies." (3*fr.* 50.)——Gilis, "Prolifération de la cellule par karyokinèse." (3*fr.*)——Kahn, "Étude clinique sur le champ de fixation monoculaire." (2*fr.* 50.)——L. Diricq, "De la coexistence de plusieurs délires d'origine différente ou de plusieurs intoxications chez le même aliéné." (3*fr.*)——L. Hamon du Fresnay, "Considérations pratiques sur les positions occipito-postérieures." (2*fr.* 50.)——L. Hamon du Fresnay, "Considérations théoriques et cliniques sur les présentations du siège." (50*c.*)——S. Jaccoud, "Leçons de clinique médicale," vol. iii. (14*fr.*)

F. Savy, Paris.—C. Bouchard, "Leçons sur les auto-intoxications dans les maladies." (8*fr.*)

G. Steinheil, Paris.—H. Gaudichier, "De l'échéance des accidents cérébraux dans la syphilis et en particulier dans la syphilis cérébrale précoce."

A. Abel, Leipsic.—R. Froriep, "Atlas anatomicus partium corporis humani," 7th ed. (10*M.*; colored, 24*M.*)——J. H. Haake, "Compendium der Geburtshülfe," 3d ed. (4*M.*)

J. F. Bergmann, Wiesbaden.—H. Willbrand, "Die Seelenblindheit als Herderscheinung und ihre Beziehungen zur homonymen Hemianopsie, zur Alexie und Agraphie." (4*M.* 60.)——A. Nicolaier, "Beiträge zur Ætiologie des Wundstarrkrampfs." (0*M.* 80.)

W. Braumüller, Vienna.—C. Braun v. Fernwald, "Ueber die Sanitätsverhältnisse an der Wiener 1. geburtshülflichen Klinik für Studirende in ihren Beziehungen zur Antisepsis während 29 Jahren." (1*M.*)

F. Enke, Stuttgart.—O. Küstner, "Die Indicationen u. Methoden der Perineoplastik." (2*M.*)

J. A. Finsterlin, Munich.—Wolfsteiner, "Ueber Typhus und Cholera in ihrer Beziehung zu Grundwasser und Trinkwasser." (2*M.*)

G. Fock, Leipsic.—H. Kung, "Atropa Belladonna u. Extractum Belladonnæ," 2d ed. (1*M.*)

J. C. B. Mohr, Freiburg i. B.—H. Vierordt, "Abhandlungen über den multilokulären Echinokokkus." (5*M.* 60.)

G. Neuenhahn, Jena.—G. Löber, "Ein glücklich geheilter Fall von Extrauterinschwangerschaft." (0*M.* 75.)

Stägmeyr, Munich.—A. Damm, "Die gesundheitsschädliche Wirkung der Mittel zur Vermeidung der Conception." (1*M.* 20.)

Stahel, Würzburg.—A. Lübbert, "Der Staphylococcus pyogenes aureus u. der Osteomyelitiskokkus." (3*M.* 50.)

Heuser, Neuwied.—Eichholz, "Zur Diagnose und Therapie der atypischen Uterusblutungen." (1*M.*) —— Vocke, "Die Zuckerkrankheit." (2*M.*)

Vandenhoeck & Ruprecht, Göttingen.—O. Behrens, "Ueber den Werth der künstl. Auftreibung des Dickdarms mit Gasen u. Flüssigkeiten." (1*M.* 80.) —— H. Grumme, "Zur Lehre von der progressiven amyotrophischen Bulbärparalyse mit Berücksichtigung ihres Verhältnisses zur progressiven Muskelatrophie und amyotrophischen Lateralsclerose." (1*M.*) —— L. Helbing, "Ueber die juvenile Form der progressiven Muskelatrophie." (0*M.* 60.) —— M. Jacob, "Ueber Bleikrankheiten im Oberharz u. deren Beziehungen zu Gicht u. Schrumpfniere." (0*M.* 60.) —— H. Lohans, "Die Resultate d. Hydrocelen behandlung nach Punktion u. Jodinjection an der chir. Klinik zu Göttingen." (1*M.*) —— A. Kahn, "Ueber Morbus Basedowii." (1*M.* 20.) —— F. Freund, "Ueber intermittirende Albuminurie." (0*M.* 60.) —— F. Fricke, "Untersuchungen über die fibrinöse Pleuropneumonie." (0*M.* 80.)

BOOKS AND PAMPHLETS RECEIVED.

Diseases of the Joints. By Howard Marsh, F. R. C. S., Senior Assistant Surgeon to, and Lecturer on Anatomy at, St. Bartholomew's Hospital, etc. With Sixty-four Illustrations and a Colored Plate. Philadelphia: Lea Brothers & Co., 1886. Pp. x–461.

President's Address, Tenth Annual Meeting of the Detroit Medical and Library Association. By C. J. Lundy, A. M., M. D.

Tubercular Consumption; Introduction to a Discussion at the New York State Medical Association, November, 1886. By H. D. Didama, M. D., Syracuse, N. Y.

Some Medico-legal Cases under State and National Laws. By B. Joy Jeffries, A. M., M. D., of Boston. [Reprinted from the "Transactions of the American Ophthalmological Society."]

Ueber Wirkung, therapeutischen Werth und Gebrauch des neuen Karlsbader Quellsalzes, nebst dessen Beziehung zum Karlsbader Thermalwasser. Von Dr. W. Jaworski, Universitätsdozenten in Krakau. Klinisch-experimentelle Untersuchungen aus der mediz. Universitätsklinik der Prof. Korczynski in Krakau. [Separatabdruck aus Dr. Wittelshöfer's "Wiener mediz. Wochenschrift."

Experimenteller Beitrag zur Wirkung und therapeutischen Anwendung der Amara und der Galle. Von Dr. W. Jaworski. [Separatabdruck aus der "Zeitschrift für Therapie."]

A Clinical Manual of the Diseases of the Ear. By Laurence Turnbull, M. D., Ph. G., Aural Surgeon to the Jefferson Medical College Hospital, etc. With a Colored Lithographic Plate and Numerous Illustrations on Wood. Second revised Edition. Philadelphia: J. B. Lippincott Company, 1887. Pp. xxii–17 to 567. [Price, $3.00.]

Nervous Diseases and their Diagnosis: a Treatise upon the Phenomena produced by Diseases of the Nervous System, with especial reference to the recognition of their Causes. By H. C. Wood, M. D., LL. D., Member of the National Academy of Sciences. Philadelphia: J. B. Lippincott Company, 1887. Pp. 11–17 to 501. [Price, $4.00.]

Wear and Tear, or Hints for the Overworked. By S. Weir Mitchell, M. D., LL. D. Harv., Member of the National Academy of Sciences, President of the College of Physicians of Philadelphia, etc. Fifth Edition, thoroughly revised. Philadelphia: J. B. Lippincott Company, 1887. Pp. 4–5 to 76. [Price, $1.00.]

Die Pathologie und Therapie der Gelenkentzündungen. Von Prof. D. Max Schüller in Berlin. Wien und Leipzig: Urban & Schwarzenberg, 1887. Pp. vi to 93.

Transactions of the Association of American Physicians. First Session. Washington, D. C., June 17 and 18, 1886.

Transactions of the American Ophthalmological Society. Twenty-second Annual Meeting, New London, Conn., 1886.

Pneumato-therapy. A Paper read before the Philadelphia County Medical Society, December 8, 1886. By Solomon Solis-Cohen, A. M., M. D., etc. [Reprinted from the "Therapeutic Gazette."]

Functional Disease. By Dr. Allchin. [Reprinted from Vol. II of the "Westminster Hospital Reports."]

On Antiseptic Surgery and its Application in Military Hospitals and in the Field. By Surgeon-Major John Martin, Army Medical Staff. London: J. & A. Churchill, 1886. Pp. 70.

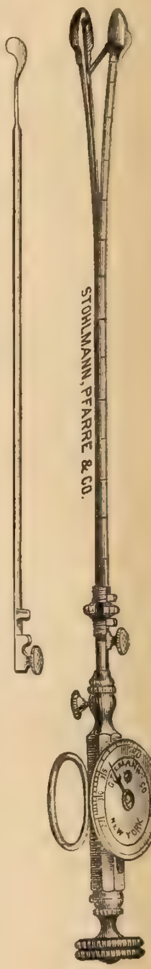
Hysterorrhaphy. By Howard A. Kelley, M. D. Philadelphia, Pa. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

New Inventions, etc.

THE METRO-URETHROTOME.

By F. Tilden Brown, M. D.

By this name I presume to call the attention of those interested in urethral surgery to an instrument here shown. It was devised for cutting a stricture I could not reach with the instrument I was then using. Since then—two years ago—I have had two others made by the same firm (Messrs. Stohlmann, Pfarre, & Co.), with certain modifications, the most important being a diminution in the size of the bulb, and a simpler adjustment of the blade. This drawing will at once suggest the urethrometer of Dr. Weir, with the blade of Dr. Otis's urethrotome. With slight alterations in each, the metro-urethrotome is practically a combination of the two. The arms spread perpendicularly instead of horizontally to the plane of the dial. The blade is introduced through a slot in the graduate screw-ring, just in front of which it is received by a groove, along which it runs to the upper semi-bulb, where it sheaths itself. To raise and hold the blade in position while cutting is effected by turning the graduate screw-ring which bears against a shoulder at the blade hilt, thus drawing up the blade, the back of which rides on an incline in the upper semi-bulb. Spreading or closing the bulb does not, of course, influence the elevation of the blade, except relatively to the lower semi-bulb. In this respect the instrument offers an opportunity for fine and accurate adjustment unattainable in any I know of. Here one complete turn of the screw-ring unsheaths the blade to a certain height; the dial records the bulb spread, and any resistance then felt in drawing the instrument forward is referable only to the limited area in apposition with the semi-bulbs, the depth of which is known by noting the inch- or half-inch mark on the staff at the meatus.



As can be seen, the instrument offers facilities for cutting the urethra up to any desired caliber without interfering with a meatus which admits only a 15 French. In this respect I believe it to be unique. With it I had hoped to satisfy myself upon the much-mooted question of the necessity of enlarging the meatus to the size of the urethra where cut at the strictured portion, but the want of a specially made dilating sound for subsequent treatment has thus far deterred me from making the test. Until we have some such form of small-necked dilating sound—one which will dilate, at the same time, about four inches and a half of the urethra symmetrically without stretching or affecting the meatus—until then, the necessity of this nearly uniform caliber is evident; for a meatus one or two sizes smaller than the urethra within renders ineffectual the presence of the largest sound permissible by such a meatus. As already stated, the instrument was devised for a special case, where a deep organic stricture of gonorrhœal origin existed. I had previously cut two anterior strictures, and hoped the disappearance of this deeper one would prove its spasmodic origin. Disappointed, however, I attempted two weeks later to operate with Dr. Otis's straight urethrotome, but failed to reach it because of the subpubic curve preventing sufficient insertion. I thought of resorting to a Maisonneuve or a Civiale, but the size of blade in each and the location of the stricture deterred me. The Weir urethrometer was modified for the purpose, and the stricture cut without annoying hæmorrhage or complication of any kind. Although this has been the only deep stricture of the sort I have met with in two years, I have still had occasion to use the instrument or its modifications in a large proportion of operations in the penile urethra.

In cases presenting an almost continuous two inches or more of dense stricture tissue, occupying any part of the anterior four inches of the urethra, and where the caliber will permit its use, the great advantages of Dr. Otis's instrument are too manifest to require comment. There are few instruments of surgical importance which so perfectly fulfill their mission. In lesser operations, however, where one or several, more or less distinct, annular strictures exist, whether deep or anterior, I believe the metro-urethrotome will be a safer and more accurate instrument. The economy of time in handling is also some advantage, for with it a single insertion may serve to diagnosticate and locate a stricture, to cut it, and to prove the satisfactory completion of the operation. An almost universal acquaintance with the urethrometers of Otis and Weir renders it needless to describe the handling of the metro-urethrotome as a diagnostic instrument. As to its management as a cutting agent a few words will suffice. Say at three inches a stricture is found permitting 27 French, the urethra anterior and posterior to it expanding to 32, representing the normal in this particular case. The closed instrument with sheathed blade is passed to the proximal side of the stricture—*i. e.*, about three inches and a half. The semi-bulbs are spread to 27, and brought a little forward until they are at the verge of the contracted zone. Now, by two complete turns of the screw-ring, the blade is unsheathed to its fullest extent and presents against the center of the urethral roof. By moderate and guarded force the whole instrument is drawn forward. As the stricture is severed a characteristic sensation is conveyed to the hand. Sheath the blade, lessen the bulb spread, and sink to the starting point, enlarge to 32, and draw forward; perhaps at the point of stricture the spread must be relaxed to 31; if so, unsheath the blade slightly by a partial turn of the screw-ring and repeat as before. I think it better to go over the ground in this way, two or three times if necessary, rather than risk injury by undue cutting or stretching in attempting instant completion. Although it has been my practice to repeat the incision along the urethral roof, it may be found advantageous in some cases to sever the opposite face or the side wall of the stricture when a second section is found necessary. I have reason to believe that severing a stricture is much less painful than putting it on the stretch; for, in using this instrument without even cocaine anæsthesia, patients have assured me that the cutting was not nearly so annoying as the pain previously caused by passing a sound. The last changes in this instrument affect the lever which spreads the bulb; the point now impinges upon almost the apex of the upper semi-bulb, thus affording additional stiffness, and a long, narrow fenestra in the lever permits the blade to sheath through it and thus utilize the hollow space in the lower semi-bulb; in this way a reduction in the size of the bulb has been obtained. The drawing shows the blade partly unsheathed in the upper semi-bulb.

40 East Thirty-first Street.

Miscellany.

The Operation of Shortening the Round Ligaments.—An excellent paper on this subject, read before the Baltimore Academy of Medicine, February 1st, by Dr. Thomas A. Ashby, professor of gynæcology in the Baltimore Polyclinic and Post-graduate Medical School, ended with the following summary of conclusions:

1. The round ligaments are designed to hold the uterus in its axis in the pelvis, and to draw the fundus of the organ toward the symphysis pubis. They have little, if any, sustaining power in preventing procidentia, except in extreme degrees of descent, where the organ has escaped outside the vulva. Posterior displacement of the uterus can only take place when the round ligaments have been relaxed or stretched by prolonged tension. 2. Shortening the round ligaments is a practical method by which the uterus may be lifted into its normal axis and be retained in position by a restoration of its normal supports. 3. This operation is admissible in all cases of posterior displacement where the uterus is not fixed by adhesions, but perfectly movable in the pelvis, and where other methods of support are not of service. 4. The operation can prove of little value in cases of procidentia, except when employed in conjunction with other methods instituted to overcome this form of displacement. 5. The operation can be easily performed by one who is familiar with the anatomy of the parts. It is almost devoid of danger if ordinary safeguards are employed. 6. In the class of cases to which it is limited, the benefits secured are striking and important.

The Health of Michigan.—According to the State Board of Health's returns for the four weeks ending January 29th, for a summary of which we are indebted to the secretary, Dr. Henry B. Baker, diphtheria was reported from fifty-six places, scarlet fever from thirty-six, typhoid fever from fourteen, and measles from twenty-one.

The New York Post-graduate Medical School and Hospital.—Dr. Clarence C. Rice has been elected professor of diseases of the nose and throat, in place of Dr. Clinton Wagner, resigned.

The Health of Boston.—During the week ending Saturday, February 5th, there were 170 deaths reported. The number of cases of and deaths from infectious diseases were: 25 cases of diphtheria and 8 deaths; 21 cases of scarlet fever and 1 death; 4 cases of typhoid fever and 3 deaths; and 43 cases of measles and 3 deaths. There were also 27 deaths from consumption, 17 from pneumonia, and 10 from heart disease.

The Periodicity of Small-pox Prevalence.—In a document entitled "Health in Michigan, January, 1887," the secretary of the State Board of Health, Dr. Henry B. Baker, says: "By the vital statistics in Michigan it is found that small-pox has been comparatively epidemic every five years. Thus, in 1872 there were 302 deaths reported in Michigan from small-pox, in 1877 there were 102, and in 1882 there were 100. This is the last year of one of these five-year periods, and, according to past experience, we may expect small-pox this year. Small-pox is present in New York, Ohio, and Wisconsin, and, if immigration this year is large, the danger from small-pox may be increased. This would seem to be a good year for vaccination against small-pox."

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending February 3d:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending January 15, 1887, correspond to an annual rate of 24·1 in a thousand of the aggregate population. The lowest death rate was recorded in Portsmouth, viz., 17·4 in a thousand, and the highest in Manchester, viz., 31 in a thousand. There were 1,860 deaths registered in London during the week ending January 15th, including 97 from measles, 17 from scarlet fever, 18 from diphtheria, 32 from whooping-cough, 1 from typhus, 8 from enteric fever, 2 from ill-defined forms of continued fever, 13 from diarrhœa and dysentery, and 591 from diseases of the respiratory organs. The fatal cases of measles, which had been 114 and 104 in the two preceding weeks, further declined last week to 97. The 17 deaths from scarlet fever showed an increase of 6 upon the whole number in the previous week. Different forms of violence caused 60 deaths.

Ireland.—The average annual death rate represented by the deaths registered during the two weeks ending January 15, 1887, in the sixteen principal town districts of Ireland, was equal to 30·5 in a thousand of population. The lowest death rate was recorded during the week ending January 8th, in Dundalk, viz., 13·1 in a thousand, and the highest in Londonderry, viz., 41 in a thousand. During the week ending January 15th, the lowest death rate was recorded in Lisburne, 0, and the highest in Waterford, 48·6 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending January 15th was 26·1 in a thousand of estimated population. The lowest mortality was recorded in Greenock, 16·4 in a thousand, and the highest in Paisley, 33·3 in a thousand.

Germany.—The deaths registered in fifty-two cities in Germany, having an aggregate population of 6,523,266, during the week ending January 1, 1887, correspond to an annual death rate of 22·6 in a thousand. The lowest death rate was recorded in Münster, viz., 11·8 in a thousand, and the highest in Bochum, viz., 40·8 in a thousand.

Para.—During the two weeks ending January 9th there were 87 deaths from all causes, including 9 from yellow fever.

Buenos Ayres.—The United States minister, in his dispatch dated December 16, 1886, states as follows: "Referring to my No. 58, under date of the 3d instant, I may add, the cholera is on a steady increase here, and that it has assumed more deadly features. Thirty-six new cases were reported to the Board of Public Assistance of Buenos Ayres yesterday, more than half of which proved fatal in a very few hours. The worst of all lies in the fact of its rapid spread throughout the outside provinces. This dreadful disease, 'which walketh at night and wasteth at noonday,' leaps the prudence of quarantine, and breaks down every line of military cordon. It is still raging fiercely at Rosario, and has recently broken out at Cordoba, Tucuman, Zarati, Bahia, Blanco, and Azul, and, worse than that, has gained a foothold on the island of Martin Garcia, where 5,000 terrified immigrants are detained in quarantine, without sufficient food or shelter. We have great fears of appalling results there. These fears are based on rumors, and now furnished the Department as such. I have watched every movement of the Government carefully, and, though there may have been mistakes, both by omission and commission, not above criticism, I can not discover any lacking on the part of the machinery of the Government to do actively and liberally all that seems best. The country, of course, is filled with terror, and at such a time very naturally the power of reason and the exercise of good judgment are not at their best."

Chili and Peru.—The United States minister at Lima, in his dispatch of the 29th December, 1886, states that "great precautions are being taken in both Chili and Peru against admission of the dread disease from the Argentine Republic. All ships touching at ports on the South Atlantic side are prohibited entrance to the ports of Chili and Peru. The mountain passes in the Cordilleras are being guarded to prevent all passing; and there is much concern felt here as well as in Chili. So much so, perhaps insufficient causes might at any time induce very inconvenient regulations in Peru against steamers from the south."

Marseilles.—The death rate in a thousand during the last six years was as follows: In 1880, 32·3; in 1881, 27·4; in 1882, 30·2; in 1883, 31·0; in 1884, 33·0; in 1885, 32·9; in 1886, 34·9.

The United States consul, in his dispatch, states that "it thus appears that not only is the death rate of this city steadily increasing, but the mortality and death rate of 1886 were greater than the death rate of the two preceding years, both of which were marked by epidemics of Asiatic cholera, while 1886 brought no visitation of that disease to Marseilles. This apparent paradox is readily explained by analysis of the death list of last year, under the several classes of fatal diseases." He incloses a table which shows that during the year 1886 there were 2,051 deaths from small-pox, 192 from measles, 390 from typhoid fever, 19 from scarlet fever, 582 from diphtheria, 1,458 from pulmonary consumption, 2,171 from diseases of the respiratory organs, 2,049 from diseases of the nervous system, 1,254 from diseases of the digestive organs, and 137 suicides, and from all other causes, 2,855—making a total of 13,158 deaths. He further states that, "while the cholera destroyed 1,781 lives in Marseilles during 1884, and 1,266 in 1885, the small-pox, which became epidemic toward the close of the latter part of 1885, and continued with extraordinary fatality through the first eight months of 1886, destroyed during the past twelve months 2,051 lives, or 270 more than the cholera death list of 1884, the most fatal year in the recent records of this city. The general death rate of France, which was 30 in a thousand inhabitants in 1800, has been gradually reduced by sanitary improvements to 22 in a thousand in 1885. The mean average death rate of the 48 largest cities and towns in France, inclusive of Marseilles, is 25·3 in a thousand inhabitants. The death rate of Marseilles for 1866 was, therefore, 38 per cent. higher than the average of other French cities. The mean average death rate of the 63 largest cities of Europe, outside of France, is 24·6 in a thousand, or 41·9 per cent. less than the death rate of Marseilles for 1886. Nor is this all. Even the extraordinary figure of 34·9 in a thousand, which Marseilles attained last year, marks the average mortality of the city entire, and not that of its worst quarters. There are two large and populous arrondissements in this municipality, where the death rate exceeds 50 per annum for each thousand of their population. It is there that the small-pox, the diphtheria, and various types of zymotic fevers, have done, in recent years, their most fatal work. Both these precincts are remote from the sea, and nearly destitute of sewerage, except the surface drainage.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Estimated population.	Week ending—	Total deaths from all causes.	Annual rate of mortality in 1,000.
Genoa	179,516	January 15.	159	46·1
Warsaw	431,572	January 8.	244	29·4
Glasgow	545,678	January 15.	311	29·7
Leipsic	170,000	January 15.	60	18·4
Rome	355,026	December 4.	145	21·2
Amsterdam	372,325	January 8.	172	24·0
Leghorn	101,044	January 16.	70	36·1
Trieste	150,157	January 8.	114	39·5
Paris	2,260,045	January 15.	1,105	25·4
Belfast	224,422	January 15.	130	30·2
Munich	262,000	January 8.	129	25·6
Barmen	108,000	January 15.	52	25·1
Bristol	223,695	January 15.	113	26·3
Gibraltar	23,731	January 9.	14	30·7
Rheims	98,083	January 15.	56	29·7
Curaçoa	25,000	January 15.	7	14·6
Cape Haytien	10,000	January 15.	9	46·9
Cadiz	65,028	January 8.	62	49·7
Acapulco	4,200	January 17.	4	49·5
Laguayra	7,428	January 15.	4	28·0
Hiogo	61,363	December 12.	19	16·1
Stuttgart	125,510	January 15.	49	20·3
Frankfort	155,000	January 8.	51	17·1
Mannheim	65,000	January 1.	23	18·4

Genoa.—The 159 deaths registered during the week ending January 15th included 3 from small-pox, 2 from enteric fever, and 1 from diphtheria.

Warsaw.—The 224 deaths registered during the week ending January 15th included 9 from small-pox.

Glasgow.—The 311 deaths registered during the week ending January 15th included 1 from small-pox, 2 from typhus fever, 8 from scarlet fever, 4 from diphtheria, 99 from pulmonary diseases, 18 from whooping-cough, and 5 from diarrhœa.

Leipsic.—The 60 deaths registered during the week ending January 15th included 2 from scarlet fever, 1 from diphtheria, and 1 suicide.

Rome.—The 145 deaths registered during the week ending December 4, 1886, included 4 from small-pox and 2 from enteric fever.

Amsterdam.—The 172 deaths registered during the week ending January 8th included 1 from enteric fever, 1 from small-pox, and 1 from diphtheria.

Trieste.—The 114 deaths registered during the week ending January 8th included 3 from diphtheria.

Paris.—The 1,105 deaths registered during the week ending January 15th included 2 from diphtheria and 1 from small-pox.

Belfast.—The 130 deaths registered during the week ending January 15th included 2 from typhus fever, 2 from enteric fever, and 1 from scarlet fever.

Munich.—The 129 deaths registered during the week ending January 8th included 1 from enteric fever, 1 from scarlet fever, and 4 from diphtheria.

Barmen.—The 52 deaths registered during the week ending January 15th included 4 from measles, 1 from typhus fever, and 1 murder.

Bristol.—The 113 deaths registered during the week ending January 15th included 5 from enteric fever.

Gibraltar.—The 14 deaths registered during the week ending January 9th included 1 from diphtheria.

Rheims.—The 56 deaths registered during the week ending January 15th included 1 from whooping-cough and 1 from diphtheria.

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ON SOME IMPORTANT POINTS IN THE TREATMENT OF DEEP URETHRAL STRICTURE.[*]

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In regard to the locality of urethral strictures, it may be broadly stated that they are important in proportion to their distance from the external urethral orifice; and, again, that strictures at any point anterior to the bulbous region are, to a great extent, free from the chief difficulties and dangers which may attach to strictures located in the deeper portions of the urethra. It is fortunate, therefore, that we find by far the greater proportion of urethral strictures situated in the penile portion of the canal—a fact which is reasonably explained and corroborated by the well-known greater frequency, severity, and persistence of inflammations in this locality.

Careful examination by means of the urethrometer and the bulbous sound, in more than one thousand cases which I have examined critically, has shown that less than 10 per cent. were found at a point beyond four inches from the urethral orifice. Through similar examinations by means of the urethrometer and the bulbous sound in any case of strictures, their presence as well as their exact locality may be readily demonstrated, and thus the distinction between cases of much or little importance may be absolutely determined. Notwithstanding this, it is still a common practice to make the diagnosis of strictures through *symptoms* alone, and to treat them by dilatation—not infrequently by division, without any knowledge of their exact location. For instance, a man comes to the surgeon complaining of a persistent gleet: the presence of stricture at some point in the urethra is naturally inferred; a flexible bougie or steel sound of the size of the urethral orifice is introduced, and, if it can be made to traverse the entire canal and passed well into the bladder, the first step in the treatment of stricture by dilatation is successfully initiated, and then a course of dilatation is carried out, without the least practical reference to the exact locality of the stricture. The stricture for which this procedure is initiated may be, and often is, confined to the anterior urethral orifice or its near vicinity, and yet the dilating instrument is carried not only through the entire penile urethra, which is usually very tolerant of unnecessary interference, but through the membranous and prostatic portions of the canal, where alone the greatest dangers of gradual dilatation reside.

In cases practically identical with those above referred to, where the strictures were of large caliber and in the penile urethra alone, I have known the passage of the flexible bougie or sound to produce epididymitis in many instances, in two cases going on to orchitis and abscess, with complete loss of the testicle in each; in other cases urethral fever, in several with suppression of urine; acute prostatitis often, with prostatic abscess in two cases, one of which was in a surgeon of some distinction, and where the stricture was within one inch of the external urethral orifice. In other cases acute cystitis has resulted. All the above-mentioned accidents would have been avoided had the exact locality of the stricture been determined previously to the inauguration of the treatment, and this confined to the immediate locality of the stricture.

Again, in cases where difficulty in urination constitutes the chief symptom of stricture, and only small flexible instruments can be passed, the same mode of procedure is not uncommonly practiced—the surgeon recognizing, perhaps, that the obstruction to the passage is in the deeper urethra, but overlooking entirely the presence of anterior contractions of greater or less caliber which are potent to produce spasmodic contractions of the membranous portion of the canal, which may perfectly simulate close organic stricture at this point.

It is especially true of strictures of small caliber in the deeper portion of the urethra—say at from a quarter to one and a half inches anterior to the bulbo-membranous junction—that, in using the small flexible bougie, the instrument, after passing the above-mentioned strictures, is again arrested at a deeper point, and yet is finally made to pass on into the bladder, though often closely hugged.

It is in just such cases as this, and they are not infrequent, that the surgeon, satisfied that there is a close, deep organic stricture *beyond the bulb*, resorts to the urethrotome of Maisonneuve, or possibly performs an external perineal urethrotomy, on a diagnosis based upon information afforded by the small flexible or filiform bougie alone. It is, however, of the greatest importance that the error should not be made of mistaking for an organic stricture of the deeper urethra a spasmodic stricture caused by an organic stricture in the bulbous urethra. It is in just such cases as that above described that the preliminary and careful use of the *bougie-à-boule*, or the bulbous sound, becomes imperative, as it will not infrequently put an entirely different aspect upon the difficulty by revealing the presence of one or more linear strictures immediately anterior to the bulbo-membranous junction, on the removal of which, a full-sized sound may be made with ease to pass into the bladder. Permit me to cite a case in illustration.

Mr. W., aged forty, came to my office in November last, suffering with a retention of urine of a few hours' duration. He had a history of gonorrhœa fifteen years previously, followed by gleet, and, for a period of some ten years, was treated by injections and by dilatation for supposed stricture from time to time, but never had complete relief from his discharge. Finally, becoming discouraged, he discarded the use of the sound entirely, and contented himself with the occasional use of a mild astringent injection. Being a man of regular and temperate habits, except from the slight gleet he experienced no trouble of consequence until some two years ago, when he had a retention of urine.

Prolonged and urgent attempts to pass a catheter failed, and he was finally relieved by the hot bath. Much blood was lost in the attempts at catheterization, and, as a metallic catheter was passed down near to the bladder, it is probable that one or more false passages were made. Although he voided his urine habitually in a small and interrupted stream, he had no further retention for a year and a half, when he had a repetition of his former experience. Repeated attempts at catheterization again failed, and he was again relieved by hot-water applications. Again a period of comparative freedom from usual trouble, until the morning of his visit to me. He had accomplished his urination with no more than his usual difficulty on rising, but on attempting the act a few hours later he was unable to pass more than a few drops. No complaint of pain, only of anxiety lest his former experiences in catheterization should require repetition. On examination, I found a penis of three inches and a quarter in circumference; length of pendulous portion, four inches and a half. The urethrometer was introduced to five inches, where it was easily expanded to 32 F., demonstrating on its withdrawal two narrowings of four millimetres at three inches and two inches and a half, and a meatus of 27 F. No. 27 solid sound was arrested at five inches. I then began a systematic examination with the metallic bulbous sounds. After careful and patient trial with sizes diminishing by one millimetre each, No. 6, the bulb of which represented six millimetres in circumference, slipped through a narrow ring of stricture and passed on, hitching over two or three little folds within the next half inch, into a sort of pouch or dilatation. I then enlarged the linear stricture with successive bulbs easily up to 8 F., and attempted to pass a catheter of this size, and, failing also in this, smaller sizes were patiently tried, besides various filiforms, but all were resisted at about six inches. I then started the Croton faucet, with directions that the patient should make no effort to urinate unless he had the desire, and left him for half an hour, thinking, later, to try the introduction under ether, if necessary. On my return he had voided eight ounces of fairly clear urine, and remarked that he had not made so large a stream in the last five years. On the following day he called, and reported sustained improvement. I then passed No. 9 bulb easily just to the pocket beyond. He complained of severe smarting when urinating soon after; this, however, soon passed off, and as he left he remarked that he did not think he had ever passed a larger stream in his life. A few hours after he started for a neighboring city. He was obliged to stop *en route* during the night, on account of another attack of retention. Here catheterism was attempted and failed, and the bladder was aspirated, about eight ounces of urine only being withdrawn. On arriving at his destination, on the following morning, another retention occurred, accompanied by fever and great suffering. This time the surgeon who was called, on hearing the history of the case, declined to attempt catheterism, but passed a trocar at once into the bladder through the rectum, and drew off over a pint of urine. The cannula was retained *in situ* for four days, when, a few hours after its removal, he passed his urine *per viam naturalem* with great ease. He returned to New York the next day, accompanied by his surgeon, from whom, in conjunction with the patient, the foregoing account was received. The patient expressed himself as considerably enfeebled, but as performing his urinary functions better than for many years. The day following the patient was etherized.

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[*] Read before the Medical Society of the State of New York at its eighty-first annual meeting.

The stricture at five inches was readily defined with Nos. 9 and 10 bulbs. No. 10 flexible bougie was resisted at the bulbo-membranous junction. The staff of a Maisonneuve was then introduced six inches, and a blade, cutting to 28 F., was passed to and not beyond five inches and a half. After division of the meatus to 32 F., my dilating urethrotome was introduced to six inches only, and turned up to 32, and the stricture at five inches to five inches and a half divided, also the contractions anterior, alluded to in the first examination. A No. 32 steel sound was then passed easily and without force well into the bladder. There was no hæmorrhage, only the oozing of a few drachms of blood, during the night following the operation. There was no constitutional reaction. The urine was drawn for five days subsequently, in order to guard against the occurrence of urethral fever. The patient had been much debilitated by his retentions and the means used to relieve them; his recovery was on that account considerably delayed, but he was out on the tenth day. The only special treatment which he received, besides that above referred to, was the introduction of a 32 F. solid steel sound every other day, until the complete healing of the wounds of operation, when he left the city apparently well.

It has been in my experience to meet with several cases practically identical with the one just cited, where close organic stricture in the bulbous urethra presented all the characteristics of true stricture of the membranous portion, and where operative measures, rigidly confined to the urethra *anterior to the bulbo-membranous junction*, have sufficed to remove all evidences of stricture *beyond that point*. The cases of urethrismus, or chronic spasmodic stricture, previously reported by me during a discussion of that subject in the "Hospital Gazette," June 28, 1879, and subsequently, were shown to be due to the presence of strictures of *large caliber* in the *penile urethra*. Strictures which have been demonstrated by means of the bulbous instruments in the immediate vicinity of the bulb were formerly accepted by me as deep organic strictures, and operated on either by external urethrotomy, or by the use of the urethrotome of Maisonneuve, as I do not consider the amount of cutting sometimes necessary to completely divide the stricture by dilating urethrotomy justifiable in the deep urethra, or beyond a point where any resulting hæmorrhage can be readily controlled by external pressure. It is, however, possible that many cases which present the usual evidence of deep organic stricture may, through careful exploration with small bulbous instruments, be relegated to the much less important class of strictures anterior to the bulb.

It will sometimes occur that strictures may be traversed by filiform instruments, and can be located by very delicate bulbous instruments, but where the caliber of the stricture is too small to admit the smallest guide bougie of the urethrotome of Maisonneuve. In such cases, where immediate operation has become necessary, the only resource is an external urethrotomy. For aid under such conditions, I have had constructed, and have frequently used with much satisfaction, a miniature Maisonneuve, of scarcely more than half the size of the ordinary instrument, carrying a blade of not more than three or four millimetres' breadth. This, with due care, may readily pass a stricture where no other cutting instrument can, and subsequently the ordinary-sized urethrotome of Maisonneuve may be readily entered.

This little instrument in my hands has, in repeated instances, saved the patient an external urethrotomy, when without it such an operation would have been unavoidable. Some time since, a patient presented at my clinique at the College of Physicians and Surgeons, who was reported to be the subject of an impermeable stricture. On careful exploration, several strictures of large caliber were found in the penile urethra, and one at about five inches, which was defined by No. 6 bulbous sound, two millimetres less in size than the shaft of the ordinary urethrotome of Maisonneuve. The miniature instrument was introduced, and the deep stricture divided so that the ordinary instrument was easily made to follow. With the latter, room sufficient for the introduction of my dilating urethrotome was secured, the deeper as well as the anterior strictures were fully divided, and, with no cutting beyond five inches and a half, a steel sound, thirty-two millimetres in circumference, was passed easily into the bladder.

I do not fail to appreciate the fact that such cases as I have recited are quite exceptional. I believe they would be found to be much less so, if the means of diagnosis which I have described and advised were more generally adopted.

Permanence of results after operations on deep strictures depends, as in the case of anterior strictures, upon completeness of division. Complete sundering at some point is essential to radical cure.

This I first publicly maintained in 1873, as the result of careful re-examinations, several at least a year after operation. In 1881 I was able to report over a hundred well-authenticated cases where the cure had remained perfect from two to twelve years after division, and the experience of the subsequent years has still further confirmed the proofs of the statement that complete division of urethral stricture, as a rule to which there are but few exceptions, means radical cure. Division of all *anterior* strictures is, has been proved to be, essential to the cure of deep strictures. Sir Henry Thompson, in his latest teaching on the treatment of stricture, students' edition of 1884, says: "I am convinced, therefore, of the necessity of *complete* division of *all* the obstructing tissue, not only in relation to future results, but to the present well-doing of the patient, and thus have an additional support for the value of my maxim, 'If you cut one, cut all.'" And again, on page 10, "If you cut at all, cut all"; that is, he further says, *all the points* in the urethra in which the presence of obstructing deposit is to be demonstrated.

"Such," says Sir H. Thompson, "is the unhesitating conviction which a very considerable experience of internal urethrotomy has forced upon me."

Again he says, page 12: "I have no hesitation now in advising internal urethrotomy whenever organic stricture, single or multiple, near or distant from the meatus, shows signs of not yielding readily to dilatation. No delay is, in these circumstances, of any value as regards the stricture itself. Division must be made sooner or later, if the organs behind it are to be preserved from injury; the sooner, therefore, other conditions being favorable, the urethra is rendered freely patent, the better it will be for the subject of it."

The reason why the results of division of deep strictures by perineal section are often but temporary, is because most commonly the anterior strictures are not also divided. Without this, the full size of the urethra in the perineal portion can not be kept up until the healing of the perineal incision; hence re-contraction sooner or later is inevitable.

HYDRASTIS CANADENSIS IN UTERINE HÆMORRHAGE.*

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I AM aware that I am occupying a somewhat unusual position, for hitherto the work of my pen and the studies of my public and private practice have, so far as concerns gynæcology, been devoted to its surgical aspect. Nor is this to be wondered at when one has passed, as we all have, a certain period of his life in the Woman's Hospital—a hospital essentially surgical in its workings and teachings. So I began my private work with the enthusiasm born of residence in a hospital dedicated by the work of Sims in fistulæ, and glorified by the labors of Emmet upon the cervix, urethra, and perinæum, and imbued with the idea that the surgical portion of gynæcology covered nearly all its field. While I would not detract one iota from the fair fame of the hospital and its surgeons, nor erase the name of one victorious battle—a battle won by surgical science—from the pillar of fame, yet I would ask you to pause and consider with me if there be not another way even so sure, more pleasant if not so short, as the one we have so often traveled together. As there comes to every thinking man a time when he reviews the past, and inquires whether in the light of past experience better results might not have been obtained, or equally good results might not have been reached by better methods, so there came to me a time when I awoke from the dream of a hospital, and of all its facilities, and found myself face to face with disease, and single-handed to fight the battle against our common adversary. Then for the first time I realized the position of the general practitioner, and then I resolved to so conduct my studies that I might explore a territory in which he could, with profit, enter and work. About this time there came into my hands a *résumé* of an article by Schatz, of Rostock, upon *Hydrastis canadensis*, which attracted my attention because it was a contribution to medical gynæcology from a man of acknowledged eminence as an operator. The results of my studies in the use of this drug in uterine hæmorrhage are based on the observance of its effect in about fifty cases, of forty-three of which I have made careful notes.

Hydrastis canadensis—golden seal, yellow root, yellow puccoon, orange root, Indian dye, Indian turmeric, hydrastis de Canada, or canadische Gelbwurzel—is found in Canada and the eastern portion of the United States. The rhizome and rootlets are the portions from which the alkaloids are extracted, and the fluid extract, tincture, and decoctions are made. It is no new drug, since Durand, as long ago as 1851, isolated hydrastine and a yellow coloring matter, which Mahla, in 1862, proved to be berberina, the hydrochloride of which had been called hydrastin by the eclectic practitioners. This hydrastin in turn was shown by Hall, in 1873, and Burt, in 1875, to be not quite pure, but mixed with a third alkaloid, which Lerchen, in 1878, proposed to call xanthopuccina. Like most indigenous plants, especially those having a bitter taste, this was supposed to be tonic, antiperiodic, aperient, alterative, and diuretic, as well as antiseptic. The list of conditions in which it had been used was equally incongruous—atonic dyspepsia, intermittent fever, constipation, hæmorrhoids, chronic diarrhœa, jaundice, ophthalmia, gonorrhœa, cystitis, leucorrhœa—and, in common with most other drugs of the pharmacopœia, it had at one time a reputation as curative of cancer. Recent investigations have shown that berberina, one of its alkaloids, is an agent of no mean value in the treatment of chronic intermittent fever, and as well that certain dyspepsias, recognized as uterine, are cured by the administration of hydrastis, as was observed in seven of my own cases. How far its action could be explained in other conditions by scientific research it is not pertinent to this paper to discuss.

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* Read at the third meeting of the Alumni Association of the Woman's Hospital.

In 1883, Schatz, in a scholarly paper read before the Gynæcological Section of the Congress of German Naturalists and Physicians at Freiburg, brought this drug favorably to the notice of the scientific world as a remedy of the greatest value in uterine hæmorrhage. Stimulated by his report, in the following year Slavatinski, in 1885 Fellner, and last year Mays made careful physiological studies, the results of which I will briefly give. Slavatinski's experiments with hydrastin upon animals showed that in small doses the irritability of the motor nerves was increased, while that of the sensory nerves was diminished, large doses arresting the heart in diastole. Fellner's conclusions, after elaborate experimentation, were as follows: Large doses injected directly into the jugular vein, the blood-pressure at first was greatly lowered, pulse slowed, followed by a rise of pressure which ultimately disappeared. There came now a second fall of blood-pressure, with irregularity of cardiac action, cardiac failure, and death. Medium doses gave similar results, the blood-pressure rising higher, but falling less deeply at the end of the second stage, the terminal symptoms being wanting. Small doses subcutaneously produced a rise of the general blood-pressure. Large doses, by enema, by the mouth, and subcutaneously, acted similarly to small doses injected immediately into the vein. From experiments carried out after section of the splanchnic nerves, or of the cervical portion of the spinal cord, after compression of the abdominal aorta, or after section of the depressor nerve, or when the respiration was suspended, simultaneously with strychnine injections, it became evident that hydrastis had its principal effect upon the vaso-motor nerve centers, the pneumogastric also being influenced, as was shown by slowing of the pulse after its section. It also acts upon the nerves of the heart, as is shown by the arrhythmia. The part of Fellner's experiments which interests us more is this: with the rise of blood-pressure, the uterine muscle became anæmic, which condition persisted so long as the blood-pressure remained high. He made use of the fluid extract of *Hydrastis canadensis*, berberina, phosphate of berberina, and the hydrochloride of hydrastine. All produced also uterine contractions, but the alkaloids required to be given in much smaller doses to produce more energetic contractions. Mays used hydrastine only, and found with small doses increased blood-pressure, vaso-motor contraction, cardiac inhibition, and anæmia of the alimentary mucous membrane; with large doses, diminished blood-pressure, vaso-motor dilatation, and hyperæmia of the alimentary mucous membrane. He observed also uterine contraction even of the body and horns of the uterus, with increased irritability of the motor nerves and diminished irritability of the sensory nerves, and that the drug acted from central influence. Fellner's experiments upon animals were made with too large doses, and the uterine contractions were the result of anæmia and not directly due to the drug itself. Clinically, I never have observed expulsive pains or the throwing off of the uterine contents.

The experience of Schatz comprises fifty cases of uterine hæmorrhage, of which he records thirty cases from the following causes: bleeding myomata, congestive dysmenorrhœa, bleeding from virginal uterus, hæmorrhage caused by parametric cicatricial tissue, by subinvolution from endometritis and metritis, and at the climacteric. His success was remarkable and convincing, with such apparent candor are his cases reported. Mendes de Leon has used hydrastis in forty cases—of which he reports fourteen, classified under the following heads: uterine hæmorrhage, which in every case had markedly diminished by continued administration of the drug, catarrhal inflammation of the mucous membrane of the uterine canal, chronic inflammation of the pelvic connective tissue, retroflexions and versions, climacteric bleeding—with excellent success, he having never observed the labor-like pains so characteristic of ergot. Shirvopiszew reports great satisfaction from the use of this drug in eight cases of metritis and endometritis, the flow ceasing in all cases. The patients who suffered from dyspepsia were all relieved. Woltering has used hydrastis in three cases of uterine fibro-myomata with the result of diminishing the length of the uterine canal and checking the flow. He alone administered the remedy in pill form, and unfortunately combined it with ergot. Akuloff reports a most successful case of uterine hæmorrhage treated for three months by this drug. The case was apparently one of subinvolution, and the patient had flowed profusely every two weeks for nine years, the menstruation becoming regular in time and lasting three days with moderate flow, the uterus also diminishing in size.

The recorded experience in the use of *Hydrastis canadensis*, then, covers more than one hundred cases. Before adding my own, I would state that metrorrhagia especially and menorrhagia have been the determining symptoms for the use of this drug. I would define menorrhagia as a condition of menstruation when the flow, previously normal, becomes profuse or has always been profuse when compared with that of women of the same station and time of life, and is evidently too great a loss for the patient to bear. Although nothing, so far as I know, will conceal its unpleasant taste, yet I have given only the fluid extract, in doses of twenty drops three or four times daily in a wineglass of water, in cases of fibro-myomata, subinvolution, and hæmorrhagic endometritis continuously, in other cases for ten days before and during the menstrual period. I have never used hydrastine or the other alkaloids, because of the great variations in their strength.

I have used *Hydrastis canadensis* in three cases of uterine fibro-myomata:

Case I.—Mrs. E. L., thirty-nine years old, never pregnant, and always healthy, whose menstrual period, formerly of three days' duration, for the last two years has become seven days, with profuse flow. She had remarked a mass in the abdomen for nearly a year. The tumor was mostly in the anterior wall, and the uterine cavity measured six inches in depth. Treatment by ergotin for three months was without effect except the production of atrocious bearing-down pains, and ended in a flooding of three weeks' duration. In three months' use of hydrastis the uterine cavity became a trifle over four inches, the periods again became normal, and the size of the mass has diminished. The patient is upon a fair road to recovery.

Case II.—Mrs. I. M., twenty-six years old, during a married life of seven years had borne three children and had suffered from one miscarriage; had been flowing profusely for four weeks. At her first labor she had puerperal fever; her last labor was a face presentation. During her married life the amount of blood lost at the menstrual period has become greater each year. She suffered from profuse leucorrhœa, vesical tenesmus, and frequent micturition. There was a laceration of both cervix and perinæum, evidences of pelvic inflammation, and a submucous intra-uterine fibroid. The depth of the uterus was four inches, there being also a few fungosities. The patient was in a deplorable condition, fainting whenever raised to an upright position, exsanguinated. Clearing out the uterus with incision of the mucous membrane over the tumor, the tampon, alum douche, and ergot did not check the bleeding. Three days later I ordered hydrastis, which checked the flow, and in a week it had entirely ceased. A month later the uterine cavity had diminished half an inch. The periods became normal in time and quantity, and remained so for over a year under the continual administration of the drug. The pelvic inflammation gradually subsided and she regained her usual health.

Case III.—Mrs. L. P., twenty-nine years old, the mother of five living children, had suffered from profuse periods, with a flow of eight days, for three years. A small fibroid was found in the anterior wall of the uterus. Under the continuous administration of hydrastis the flow again became normal and so remained.

My conclusions in these and the subsequently enumerated cases are supplemented by the results of treatment in the observations of the writers whom I have already mentioned. Hydrastis checks the bleeding from uterine fibro-myomata by the production of persistent anæmia, unaccompanied by the distressing cramps of ergot or the flooding from the alternate contractions and relaxations. So in the cases of small fibroids it is preferable where their expulsion would probably be attended by hæmorrhage or septicæmia. We all know that enucleation by the spoon-saw is frequently followed by death, that removal of the ovaries (castration), or removal of what has been termed, curiously enough, the uterine appendages, is generally unnecessary and contra-indicated, aside from the great danger to life, on both social and moral grounds. In face of the experience of the various observers above enumerated, every man, before resorting to abdominal section, should consider that he may needlessly sacrifice a human life.

Of hæmorrhagic endometritis I record seven cases, five being cases of endometritis fungosa:

Case IV.—Mrs. S. R., forty years old, the mother of seven children, since the birth of the last, five years previously, has suffered from menorrhagia, flowing for six to eight days. Ergot and tampons of alum and cotton checked a flow of ten days' duration, but the next period was even worse. Next I removed a large quantity of uterine fungosities with the curette without any effect upon the following period. *Hydrastis canadensis* during the last two years has kept the flow normal in time and quantity and of four days' duration. The uterus, formerly hyperplastic, now measures three inches.

Case V.—Mrs. H. T., twenty-nine years old, has borne three children, the youngest seven years old. Has had constant flowing since a miscarriage three months ago. Has been repeatedly curetted without benefit. Now flows five days profusely, with much uterine tenesmus, anæmic headaches, dizziness, and dyspepsia. As I was unable just at that time to remove the fungosities with the curette, I administered hydrastis, which reduced the flow to two days and moderated it. This condition has remained for two years, together with great improvement in the general health.

Case VI.—Mrs. M. M., twenty-three years old, since a miscarriage one year ago, has menstruated every two weeks, the flow lasting six days; uterus hyperplastic; the diagnosis of fungosities established by the curette. Hydrastis relieved the patient after two months, and she has since remained well.

Case VII.—Mrs. A. S., twenty years old, has flowed just one half of the time since a miscarriage six months ago. The flow was checked by hydrastis, and disappeared for over one month. It was subsequently resumed and became normal.

Case VIII.—Mrs. M. N., forty years old, has flowed eight days at a two weeks' interval for the last year. The diagnosis of fungosities was established by the curette. After the second month she began to flow every four weeks for three days. Then also the uterus was somewhat enlarged after the birth of her only child.

Case IX.—Mrs. M. D., forty years old, after a marriage late in life began to flow profusely for eight days at regular intervals. The pain was severe and the uterine leucorrhœa profuse, the uterus bleeding freely upon a touch with the probe. Hydrastis has controlled the bleeding for eighteen months. For the last year the retroverted uterus has been retained in place by a pessary.

Case X.—Mrs. A. C., thirty-two years old, the mother of two children, has suffered from profuse periods for five years. The uterus is enlarged, the cavity bleeds easily, no fungosities are found. The menstruation, formerly at intervals of three weeks and profuse, now has been for a year made regular in time and normal in quantity by hydrastis.

In hydrastis, then, we have a sovereign remedy, in endometritis fungosa even when curetting has failed to arrest the bleeding. I have seen a fatal result from the apparently simple operation of curetting. That there is danger is attested by the number of so-called antiseptic curettes to be found in the market. With the use of hydrastis no confinement to the bed is necessary.

Sixteen cases of subinvolution of the uterus have been treated by hydrastis:

Case XI.—Mrs. H. B., thirty-seven years old, the mother of one child, has flowed six to eight days each month for the last six years. She has profuse leucorrhœa, poor appetite, pains in back and groins, and dyspareunia. She is emaciated, anæmic, and a thoroughly broken-down woman. Examination reveals vaginismus, a laceration of the cervix and perinæum, and an anteverted subinvoluted uterus, whose cavity measures three inches and a half. The cervix is hard and contains deep and tender cicatrices. *Hydrastis canadensis* was used for about six months, with entire relief of the menorrhagia. Weir Mitchell's treatment was carried out for two months, frequent local applications of eucalyptus were made to the cervix, and the use of the Emmet douche was enjoined for three months. The patient at the end of a year is in excellent condition, both locally and generally.

CASE XII.—Mrs. K. M., thirty years old, has had four children in a married life of six years. Her menstruation recurs every three weeks and lasts nine days. She has a profuse uterine leucorrhœa, and is neurasthenic and dyspeptic. Three months' use of hydrastis has so improved her that she considers further treatment unnecessary.

CASE XIII.—Mrs. H. G., thirty-five years old, had suffered from menorrhagia since a still-birth eight years previous to her first visit. Her periods lasted eight days and recurred every three weeks. There were also a lacerated cervix, a lacerated perinæum, and a retroverted, hyperplastic uterus. Three months of hydrastis relieved the menorrhagia, and the uterus became normal in size.

CASE XIV.—Mrs. M. S., thirty years old, had been pregnant four times and delivered of three living children. Every three weeks she flowed for six days. The cervix had been carelessly closed; two weeks' treatment checked a flow of ten days' duration; her next period was missed, although she became regular afterward.

CASE XV.—Mrs. M. H., twenty-five years old, had suffered for two years since the birth of her last child with profuse periods of ten days' duration, recurring every three weeks. At her second period the flow was checked. There was a deep laceration of the cervix, resulting in an enlarged uterus.

CASE XVI.—Mrs. E. P., thirty-four years old, had borne four children. Her periods recurred every four weeks, but there was a profuse flow of six days; this had persisted for two years. Here, again, a lacerated cervix was at fault. The result of treatment was satisfactory.

CASE XVII.—Mrs. I. Z., twenty-five years old, was cured of a menorrhagia, flow every three weeks, lasting seven days, of two years' standing, by four months' treatment, with a great improvement in her general condition.

CASE XVIII.—Mrs. L. I., thirty-nine years old, had received a deep laceration of the cervix and a slight tear in the perinæum at the birth of her only child four years ago. Her menorrhagia, of a monthly period of six days, was relieved.

CASE XIX.—Mrs. E. F., twenty-nine years old, had flowed profusely at every monthly period since a miscarriage, six months before. The next period became normal, and so it remained during five months, when she passed from observation.

CASE XX.—Mrs. L. S., twenty-five years old, the mother of three children, was pallid and nervous from a menorrhagia of four months' standing; her periods recurred every two weeks. Hydrastis stopped the flow entirely for one month, and she subsequently became regular.

CASE XXI.—Mrs. S. W., twenty-five years old, twice pregnant, had suffered from menorrhagia since a miscarriage eight months previously. Had been troubled with dyspepsia, faintings, and vertigo. Relief followed the administration of hydrastis for two months.

CASE XXII.—Mrs. M. M., twenty-eight years old, the mother of two living children, had suffered from menorrhagia since the birth of her last child three years ago. This symptom, together with a profuse leucorrhœa, was relieved in four months.

CASE XXIII.—Mrs. M. H., thirty-six years old, the mother of two children, had suffered from indigestion, dysmenorrhœa, and menorrhagia; periods every three weeks, lasting six days, since the birth of her last child. Two months' treatment entirely relieved her.

CASE XXIV.—Mrs. A. G., forty years old, had suffered from indigestion and menorrhagia for two years. The uterus was diminished in size at the end of one month, and the flow was checked from the outset.

CASE XXV.—Mrs. M. F., twenty-five years old, had suffered from profuse periods for three years since the birth of her only child. Relief followed a month's treatment.

CASE XXVI.—Mrs. K. G., twenty-five years old, had borne two children within a year and a half. The menstruation recurred every three weeks and lasted six days. The profuse flow was checked at the first subsequent period, and entirely relieved at the second month.

All of these patients were examined, and in many instances the uterine cavity measured from time to time. The average duration of treatment was about that of preparation for the operation of closure of the cervix. Had these patients come under my observation a few years before, I should have undoubtedly operated upon the greater portion of them.

Hydrastis canadensis, then, by its faithful use, will often render Emmet's operation unnecessary. We see the uterus becoming smaller, the leucorrhœa diminishing, the erosions healing, the displacements becoming rectified. Apparently it is to this class of cases that Shivestizeneff refers, although he does not apparently recognize a lacerated cervix.

I have treated successfully five cases of climacteric hæmorrhage with hydrastis:

CASE XXVII.—Mrs. M. F., forty-five years old, the mother of five children, had been irregular in her menstruation for eighteen months. She was troubled with dyspepsia, vertigo, hot flashes, constipation, and palpitation of the heart. Her periods were of six to ten days' duration, and recurred irregularly every two to three weeks. This patient was relieved and ceased to menstruate three months later.

CASE XXVIII.—Mrs. M. C., fifty-two years old, had borne four children. Her symptoms were an almost exact counterpart of those above mentioned. At the time she was seen she had been flowing two weeks. The flow stopped in less than a week, never to return.

CASE XXIX.—Mrs. C. M., forty-seven years old, had been in the "dodging time" for a year. Palpitation was especially complained of. Hot flashes, vertigo, and constipation rendered her life miserable. The menorrhagia was checked, with relief of the symptoms, but menstruation persisted for a year.

CASE XXX.—Mrs. A. K., thirty-seven years old, had borne four children. For the last year had been flooding profusely, with the usual climacteric symptoms, being hysterical, constipated, and neurasthenic. Here again hydrastis rendered the periods of four to five days' duration and moderate in amount.

CASE XXXI.—Mrs. M. H., fifty years old, a widow, had been much troubled with dyspepsia, hot flashes, and vertigo for four years. The interval of her periods was normal, but they were profuse. Hydrastis decreased the amount of flow, and the dyspepsia was relieved.

The results obtained in these cases I regard as admirable, and believe we have a valuable remedy in this class of cases, which oftentimes are very difficult to relieve. It is only fair to say that I have also used the bromides sparingly and arsenic somewhat vigorously, but I feel positive that, in removing one cause of general anæmia, hydrastis has been of great benefit.

Nine cases of pelvic inflammation have come under my care which have been treated with hydrastis. The more accurate diagnosis will be given with each case:

Case XXXII.—Mrs. M. W., thirty-six years old, had borne one dead and six living children. For the last two years she had suffered with pain in the back and sides, with profuse flow; a double laceration of the cervix had been closed, with the result of metrorrhagia, for six months, when she came under my observation. There was a large exudation on the right side of the womb, very tender; the right ovary was not found, but the left was distinctly felt to be normal in both size and position. Hydrastis permanently checked the metrorrhagia in one week and kept the menorrhagia under control for six months, when she passed from observation.

Case XXXIII.—Mrs. M. W. D., twenty-three years old, never pregnant, had suffered from menorrhagia for two years. There was a large exudation into the utero-sacral ligaments, with great tenderness and vesical irritability. The menorrhagia was relieved, and she even missed a period. Then her menstruation became regular, with great improvement in her general health.

Case XXXIV.—Miss L. M., twenty-one years old, had suffered from too great loss of blood for two years. The monthly flow would often continue ten days. The uterus was somewhat enlarged and anteverted. She was under treatment three months, with ultimate relief.

Case XXXV.—Miss M. H., twenty-two years old, had been complaining of profuse periods for four years; she also suffered much pain. The uterus was somewhat prolapsed, and there was much tenderness on the left side. Hydrastis relieved the menorrhagia in three periods, but the dysmenorrhœa persisted for two more.

Case XXXVI.—Miss M. K., twenty-two years old, had flowed every three weeks and a half for six days during the last eight periods. There was no dysmenorrhœa. The uterus was retroverted, with some inclination of the body to the left. She was relieved after two months.

Case XXXVII.—Miss A. C., sixteen years old, had suffered from atrocious dysmenorrhœa since the first six months of her menstrual life. She flowed five days at every period. Hydrastis relieved the excessive flow, but did not reach the pain. The uterus was retroverted, possibly retroflexed, but, as she did not remain but a month under my observation, I can not report the final result.

Case XXXVIII.—Miss F. K., eighteen years old, during her menstrual life of four years had suffered severe pain, chiefly in the left side, during her flow, which lasts three days and is very profuse. There was a large exudation in the utero-sacral ligaments. The uterus was somewhat anteverted; both ovaries were normal in size and position. Hydrastis diminished the amount of flow, but not its duration.

Case XXXIX.—Miss W. S., twenty-five years old, was sleepless and nervous, with fainting and dizzy attacks, and annoyed by horrible dreams. Her flow was regular in time, but lasted seven days, and was profuse. The womb was retroverted. Hydrastis diminished the time to four days, and the amount to a normal quantity. This result persisted one year.

Case XL.—Miss B. C., twenty-three years old, had been under my care for several attacks of pelvic cellulitis and peritonitis; her uterus was markedly anteverted. She suffered from hypogastric pain, nausea, and frequent urination. Her general condition was bad. Hydrastis relieved the amount of flow, and reduced the time of her period from seven to five days. The final result, after three months, I am unable to report.

Since I have been using hydrastis in these cases I have abandoned the use of iodine, to some extent that of hot water, and in a measure local treatment. I should even be inclined to use this remedy in pyosalpinx, because by it we can reduce the hyperæmia without producing contraction of the tubes. I have seen too many healthy tubes removed to operate before having exhausted medical therapeutics, and, further, I have found post mortem that even pyosalpinx can become quiescent, the pus becoming cretaceous, the whole process apparently never having given rise to any symptoms.

Three cases of congenital anteflexion have been treated with such marked relief of symptoms that I report them here:

Case XLI.—Miss M. A., nineteen years old, suffers from pain in the back during her flow; becomes hysterical; flows for seven to nine days every three or four weeks; has cramps; passes clots; has profuse leucorrhœa, frequent urination, and great pain on movement of the bowels. These symptoms have marked her menstrual life, and have become aggravated with each year. She has been under my observation for six months; her flow is now normal in time and quantity, and her nervous symptoms have almost entirely disappeared.

Case XLII.—Miss M. M., twenty-nine years old, has a retroverted-anteflexed uterus. She flows six to seven days, and profusely. During the year she has been under observation, not by any means treatment, her dysmenorrhœa has disappeared and the flow become normal. I first replaced the retroversion, which was the result of lifting, and retained the womb in position with a pessary.

Case XLIII.—Mrs. A. B., twenty-five years old, never pregnant, suffers from great pain in the back during her profuse five days' flow. She has uterine leucorrhœa, hot flashes, headaches, and dyspareunia. She has an enlarged uterus, which is, however, movable. There is also great tenderness on all sides of the uterus, especially the left. There is no exudation; both ovaries are distinctly felt, not prolapsed, the left one very tender to the vaginal touch. Her menorrhagia was controlled by two months' use of hydrastis. She had omitted its use for three months, when she came again under my observation with acute inflammation of the left ovary. She suffered from great pain in the left side, uncontrollable nausea, no tympanites, but great headache and thirst. Her pulse ranged for a week from 100 to 110, and her temperature from 102° to 104° F. The left ovary was greatly enlarged and very tender, and vaginal examination always provoked vomiting. On the third day of my attendance she developed an inflammation of the left parotid gland, which went on to resolution. She made an excellent recovery, and has remained in good health. This is one of the few cases in which I have been able to make a diagnosis of acute oophoritis.

In this flexion of the uterus, producing what has been called obstructive dysmenorrhœa, although the worst cases as regards pain and intractability have been cases with a patent uterine canal, the artificial anæmia has not failed to relieve the cramps, the pains, and generally the nervous symptoms as well. This drug also obviates the necessity of having recourse to the operation of posterior section, which is ordinarily one of the most fatal of all the minor operations. In these cases, if hydrastis is employed, local treatment is entirely unnecessary. I would even go further and say that, in many cases, an examination can be dispensed with. The only interest that the patient has is that her symptoms shall be relieved; that is the only interest that the physician should have, and, if it can be accomplished without an examination, I regard an examination as entirely unnecessary. I am prepared to say even more: that I would have it the established rule that no examination of an unmarried woman should be made unless with the unanimous decision of a consultation, one of the physicians, at least, to be a general practitioner.

In this paper I have aimed to show that results can now be satisfactorily attained by medical means which were formerly supposed to be reached only by surgery. I regard every step in this direction to be a decided advance, because it brings gynæcology into the hands of the general practitioner to a greater and still greater extent. To do this is, I maintain, the first duty of the specialist. Before closing, I wish to remind you that disputed questions have never been settled by the specialist, and rightly so. They come for their final verdict before the jury composed of general practitioners. The gynæcological question of to-day is this: Shall we lead the revolt against needless operations, dangerous mutilations, and unnecessary and debauching examinations, or shall we wait to be driven into line by the outraged sentiments of the profession at large?

REPORT ON A NINTH AND TENTH SERIES OF
ONE HUNDRED CONSECUTIVE CASES OF CATARACT EXTRACTION,
PERFORMED ACCORDING TO VON GRAEFE'S METHOD.*

By H. KNAPP, M. D.,
NEW YORK.

The present series of two hundred cases follows, without interruption, upon the eight series, and comprises all the extractions that I have done according to von Graefe's method since November 18, 1882, up to the present time. I may say, however, that during these four years I have been absent from New York longer than a year, and that since June of 1886 I have practiced, as a rule, extraction without iridectomy. The following remarks are confined to what I think may be of interest to the general practitioner, who, though he may decline to extract cataracts himself, would not like to be ignorant of the methods and results of so important an operation.

The majority of the patients referring to the present series have been under observation a longer time, and any subsequent accident, inflammation, and impairment of sight, so far as they have come to my knowledge, have been carefully recorded.

The method of operating has remained substantially the same as in previous years. It consists in a section through the upper third of the transparent corneal margin, a smaller or larger excision of the iris, incision of the capsule at the periphery, along the corneal section, expulsion of the nucleus and cortex of the lens by external pressure, exsection or reduction into the anterior chamber of any portions of iris or capsule that may be caught between the lips of the wound, instillation of atropine immediately before and after the operation, bandaging of both eyes with absorbent cotton and a flannel roller, and keeping the patient in bed as quiet as possible for several days, in a room only moderately darkened.

Since October 17, 1884, all the operations have been done under local anæsthesia with cocaine.

The reactive processes following this method of operation are, so far as my experience and knowledge go, less numerous than in any other method, except, perhaps, when the iridectomy is done not simultaneously with the extraction, but weeks, months, or years before. The peripheric opening of the capsule reduces the cutting and the introduction of instruments into the eye to a minimum, renders the expulsion of the lens easy, and prevents the prolapse of wrinkled shreds of capsule. Plastic iritis, so common when the capsule is lacerated in the center, occurs only exceptionally in this mode of operating, for the irritating effect of the shreds of capsule and free remnants of cataract is obviated. The method renders necessary, however, a larger number of secondary operations, at least if we want to give our patients the benefit of the greatest acuteness of sight that is obtainable without danger. The remnants of cataract remain shut up in the capsule, innocent and inert, it is true, but they dim the pupil and cause an obstacle to sight which is still increased by the gradual wrinkling of the capsule. The remedy for this condition is to split the capsule with a knife-needle. This almost completely harmless operation can be done two weeks after the extraction, or at any later period, and, in general, renders the vision sharper than when the center of the capsule is ruptured during the operation. In the series of two hundred cases under consideration, I have made ninety-one disscissions of the so-called secondary cataract, *i. e.*, incising the capsule with a knife-needle. None of them had a bad result, and the improvement of sight has been most gratifying. I may say that this improvement is not marred by subsequent wrinkling of the capsule—a condition which is quite frequent when the capsule is primarily ruptured in the center.

The visual results obtained are as follows:

Visual acuteness.	No. of cases.	Visual acuteness.	No. of cases.	Visual acuteness.	No. of cases.
$^{20}/_{20}$	8	$^{15}/_{200}$	3	$^{1}/_{1000}$	1
$^{20}/_{30}$	27	$^{10}/_{200}$	1	$^{1}/_{\infty}$	4
$^{20}/_{40}$	22	$^{8}/_{200}$	1	0	3
$^{20}/_{50}$	45	$^{7}/_{200}$	1	Failure	8
$^{20}/_{70}$	34	$^{5}/_{200}$	1		
$^{20}/_{100}$	15	$^{3}/_{200}$	4		
$^{20}/_{200}$	30	Moderate	11		
Good	181				

These results are compiled from the records of the latest examinations of the patients. If we express them in percentages, we obtain: Good results, 90·5 per cent.; moderate results, 5·5 per cent.; failure, 4·0 per cent.

The moderate results were, in most cases, owing to complications, such as old opacities of the cornea and vitreous, partial atrophy of the optic nerve, atrophic chorioiditis, and the like.

The cases of failure form the most important part of this, as of any, report, and demand an inquiry into their causes. Their histories are as follows:

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* Read by title before the Medical Society of the State of New York at its eighty-first annual meeting.

The patient entered with V. = $\frac{1}{1000}$, on the day of discharge, the 26th after the operation, had a tremulous cataract, and the liquefied vitreous oozed out after the iridectomy. The wound closed, but hæmorrhage, from rubbing the eye in the night, ensued into the anterior chamber and the vitreous. Vitreous dull when the patient left. Patient not seen again. The operation had been done with antiseptic precautions.

Mrs. M. B., after a regular operation without antiseptics, had a primary and permanent union of the section, but after-hæmorrhage in the pupil and vitreous. Then followed circumcorneal injection, nightly pain, and dullness of sight. Pupil all the time wide, and free from adhesions; iris congested; vitreous dull. This condition of congestion of the uveal tract, with diffuse opacity of the vitreous, lasted until the thirty-eighth day after the operation, when she was discharged with V. = $\frac{15}{200}$. Two months later her sight was reduced to quantitative perception of light ($^1/_\infty$).

There are four cases of *primary suppuration* of the wound, ending in destruction of the eye by panophthalmitis:

The first was that of a man, Mr. Fr., sixty-seven years of age, whose other eye was a stump, the result of an extraction done in Mobile. He looked well; the functional examination proved normal. The only abnormity noted was that he breathed through his mouth. Regular extraction, under cocaine, with antiseptic precautions (corrosive sublimate, 1 to 5,000). On the evening of the second day pain and secretion set in. The next day white infiltration of the wound; increased the following day. Cauterization of the infiltrated edge of the flap, with a platinum wire brought to a glow, did not prevent the progress of the suppuration.

The second was that of a fat lady, Mrs. S., operated on in the city on a very blustering April day (1884), without antiseptic precautions other than cleanliness. She was fidgety; the operation required a good deal of manipulation, especially in expelling remnants of the cortex, but its termination appeared very satisfactory; pupil clear, wound free, closure perfect, sight excellent. She was very restless the first night, and suppuration showed itself the next day at the edge of the wound. It remained partial, and left the eye healed with an indrawn scar, preserving perception of light, with very little hope of improvement from an after-operation.

The third patient, Mrs. H., was a woman suffering from ozæna and a lacrymal fistula discharging pus. She was operated on under the strictest antiseptic precautions. The whole field of the operation was carefully washed with a carbolic-acid solution, and the fistula syringed with corrosive sublimate. The operation passed off smoothly; the fistula was covered with isinglass-plaster, upon which, as well as on the eyelids, iodoform was strewed. Suppuration from the next day, leading to panophthalmitis.

The fourth patient, Mrs. K., aged sixty-four, of College Point, suffered from a chronic conjunctivitis, with no, or only little, mucous discharge. She had been exposed to cold the day before the operation. Cleansing of the eye, conjunctiva, instruments, and hands with corrosive sublimate, 1 to 5,000. Suppuration the next day, which, with the most careful after-treatment (irrigation of the wound and conjunctival sac), could not be arrested.

A case of secondary suppuration occurred in an old woman, McG., addicted to drink, suffering from ozæna and chronic conjunctivitis. Antisepsis. Expulsion of the lens followed by prolapse of the vitreous from sudden pressure of patient. Healing undisturbed until the fourth day, when pain began, and lasted all night. The other eye had been removed after an operation performed in another institution. There was offensive, somewhat greenish, discharge in its conjunctival sac. In the eye recently operated on the wound was closed, but from one of its corners a streak of pus descended into the anterior chamber, producing purulent hyalitis and phthisis bulbi.

The last case of loss is particularly sad and instructive. Peter McPoland, of Highland Falls, N. Y., had a complicated cataract, with chalky deposits. It was removed January, 1884, in its capsule by pressure with the fingers. Slight escape of vitreous. Carbolic-acid spray, washing, and bandage. The healing was slow, but good. There was a small prolapse of iris in the outer corner of the wound. He was discharged thirty days after the operation, with V. = $\frac{20}{70}$. Five months later he presented himself again. His eye was free from irritation, and his vision $\frac{20}{20}$, full sight. January 3, 1887, he came to see me, and said "that his sight had been beautiful for two years and a half; then he drove in the wind long and late; the eye inflamed, and festered out."

Had I compiled these statistics at an earlier date, this case would figure among the perfect results—V. $\frac{20}{20}$. The prolapse of iris was probably the starting-point of the suppuration, and, therefore, the loss of the eye has to be considered as a consequence of the operation, and entered among the failures, just as detachment of the retina, occurring sooner or later, after prolapse of vitreous, and after extraction of the lens in its capsule, with or without the introduction of instruments, is a consequence of the operative procedure.

Apart from this case there were five cases of suppuration (two and a half per cent.)—four primary and one secondary. With the exception of the lady, they all suffered from nasal, lacrymal, or conjunctival disease. The antiseptic precautions which I employed before, during, and after the operations (only the lady was operated on without them) did not avert the suppuration, though they did so in a much greater number of other cases included in the present series. Dacryocystoblennorrhœa and chronic conjunctivitis, with a swollen uneven mucous membrane, have been dreaded by all eye operators for many, many years. In some such cases I have obliterated the tear-sac with the lunar or actual cautery, and not operated before all secretion in the conjunctiva had ceased. The operations in these cases succeeded. This obliteration of the sac is evidently the safest plan. Lacrymal disease is, however, so frequent that radicalism in this respect would be not only very annoying but also superfluous in the majority of cases. Yet the cases of lacrymal trouble are almost the only ones in which our present means of aseptic operating fall short. They require most careful preliminary treatment. Bacteriological examinations of the secretion and superficial tissue of the conjunctival sac, both microscopically and by way of cultivations, will, I think, aid our judgment of the prognosis in a given case.

Half of the number of patients were operated on without antiseptic precautions. Among them is one failure by suppuration in a healthy eye. The patient was operated on when the atmosphere was very dusty. Two other factors can be alleged as favoring the development of purulent infection in this instance: a good deal of manipulation during the operation, and restlessness in the first night. Formerly I thought that germs were one of the causes of suppuration; at present, on the strength of numerous experiments, I believe that they are its only cause.

In the conjunctiva the pyogenic fungi are not numerous; infection with the fingers of the operator does not occur, for the wound is not touched by them; the wounds are commonly small, the operations are soon over, and the eyelids afford an excellent protection. The eye surgeon, as regards wound-infection, is in a more favorable position than the general surgeon. His instruments are small, and easily kept germ-free. Air and water, if reasonably pure, are innocent, and the dressing material does not come in contact with the wound. Yet there are cases of primary and secondary infection of cataract wounds. Where do the germs come from? I think from the following three sources: 1, from the tear-sac; 2, from the conjunctiva, when both are in a state of acute or chronic purulent inflammation; and 3, from the edges of the eyelids. The eyelashes store up smaller or larger masses of secretion, albuminous substance, which in its decomposition will be a nutrient soil for putrefactive bacteria and their kin, the pyogenic microbes. Long before I had definite notions on the mode and effects of infection, I had noticed that chiefly those cases suppurated in which I had been very particular in clearing the pupil from remnants of cataract. This I did by pushing these remnants with the lower lid into the corneal wound and wiping them out with the edge of the upper lid; a procedure which, being done without instruments, seemed harmless, but now I consider it as very dangerous, for it is a direct inoculation of the wound, in every case in which the edge of the lid is not free from germs.

If germs are the only cause of suppuration, and if we find germs everywhere, it does not follow that they invariably produce suppuration when they get into a wound. To accomplish this, they must meet with conditions favorable for their development. When injected into the blood of a healthy organism, they perish if mechanical or chemical irritants do not prepare the soil for them; but if they find a sore spot, an irritated part, then they settle and multiply in it—a fact unambiguously proved by experiment.

I abstain from speaking of the great variety of germ-killing remedies which, especially in an organ so delicate as the eye, often do more harm than good; and, though I advocate and practice antisepsis, I lay no less stress now than before on the conditions which the surgeons before Lister recognized as essential for obtaining primary union, namely: the most delicate and accurate execution of every step of the operation, and perfect coaptation of the lips of the wound, which coaptation, when once attained, should not be broken again—that means, rest of patient and his diseased organ. Other conditions, nutrition, ventilation, etc., are self-evident.

Professor Virchow, who has long been one of the Berlin Liberal representatives in the Reichstag, is to be opposed at the coming election, according to the "British Medical Journal," by Count von Moltke.

Perils of Juvenile Parties.—It is stated that after a juvenile ball given by a well-known Spanish nobleman, seventeen of the children who had been present were found to be suffering from measles, one of the little guests having only just been convalescent from that affection. —*Lancet.*

THE PROGNOSIS OF ACUTE LOBAR PNEUMONIA.

By W. D. SCHUYLER, M. D.

Considerations with regard to the Study of the Prognosis of the Limited Diseases.—Study of the Prognostic Conditions of Pneumonia.—Conclusions from the Study: Pneumonia is a Dynamo-functional Affection, and its Rational Treatment derives its Indications from Concurrent or previously Existing Conditions.

The following study is made with a view to determine from a relative standpoint the nature or character of the action of acute lobar pneumonia, the causes of its varying results and fatality, and particularly for determining therefrom general and special therapeutic indications for its rational treatment.

We shall find that the prognostic data of that most important malady, carefully and judicially considered, clearly support the theory originally put forth by me in a series of articles published in this Journal for August 4, 1883, *et seq.*, that pneumonia is a dynamic and functional affection simply, rather than, as generally held and taught, either an inflammatory disease or an essential, infectious fever.

The course of this study will pursue the following order: First, to interrogatively examine each prognostic condition of those usually given, and determine its true significance, if any, as a prognostic influence or factor of the disease, and whether such is found to accord with general teaching; and, second, to determine how and by what character of action such conditions as are proved to really influence it act to promote their several results: for the purpose, besides elucidating therefrom supporting evidence as to the essentially dynamic character of acute pneumonia, of setting forth more clearly the dangers of the disease and tracing their causes, and especially of developing rational indications therefrom, for the general treatment both of the malady and of its several and special complicating and dangerous conditions.

With regard to the study of prognostic facts in general, it may be premised that it may be pursued with either or both of two objects in view: one, being more strictly pathological, to determine the probable results of a disease, as such may occur from its essential action (local and constitutional combined) uninfluenced, except incidentally, by the patient's condition or environment, or by extraneous, concurring, or complicating conditions, and without especial reference to treatment; the other, being more particularly therapeutical, to determine correctly with regard to the character and essential action of each and all related and prognostic facts and conditions, for the purpose of determining therefrom accurate, specific, and especially preventive indications for such treatment as will more certainly or better secure the patient's safe progress through the various stages of his malady, and particularly so through its more dangerous passes.

As commonly given, we may conclude, in the usual absence of special indications for treatment being pointed out, that the object aimed at in prognosis is pathological; but, as our ostensible object as physicians is to cure disease rather than to study it *per se*, and, as in a certain class of diseases the therapeutic possibilities derive their indications almost or quite wholly from prognostic and related facts and conditions, a therapeutic object should have precedence in such study.

The class of diseases just referred to as having its therapeutic possibilities in prognostic and related facts, is that known as the limited diseases. In them the more important therapeutic indications are not derived from the essential action (though such is not to be disregarded), but from its related, extraneous, concurring, or complicating conditions, or from causes idiopathic in the patient. The comparative unimportance of therapeutic indications arising from the essential action of a limited disease rests (*a*) upon the ground that, being limited, such action tends in itself to recovery without treatment; (*b*) that treatment does not affect the duration of such essential, limited action, and (*c*) that, as a rule, the essential action is not dangerous; while the great importance, on the other hand, of elucidating indications for treatment from its extraneous, concurrent, idiopathic, or complicating states or conditions, abundantly rests (*a*) upon the fact that these conditions may and do sometimes greatly prolong the period of sickness, and may even prove a cause of danger and great fatality; (*b*) upon the ground that by timely treatment their occurrence may sometimes be anticipated and prevented, or at least their results greatly mitigated; and (*c*) upon the ground that this is the only field for active treatment afforded by this class of maladies.

The comparatively greater dangers that may reside in the extraneous conditions and relations of a limited disease, rather than in its essential action, and, therefore, the greater necessity for developing correct therapeutical indications from the former, is well illustrated in the course, symptoms, and results of different epidemics of the same limited disease, either of the contagious diseases of childhood furnishing the example. In one epidemic the disease may occur in so mild a form as to call for little or no treatment, while in another its action may develop the gravest symptoms throughout, and result in the greatest fatality. It is evident that the severity and fatality in the latter depend upon non-essential, extraneous conditions, rather than upon the essential cause of the epidemic, which was equally an element of morbidity in both cases, this being shown by the equal protection afforded against subsequent attacks of the same malady in each instance. Again, it may be remarked that extraneous conditions affect the prognosis of the limited diseases mainly by promoting some form of danger, as, barring the occurrence of dangers in their course, all limited affections fall under the category of harmless diseases. Hence the great necessity—with reference to developing dangers in the limited diseases and of deriving indications for their preventive treatment—for a careful, accurate, and well-differentiated study of their extraneous and less favorable prognostic conditions in which dangers mainly reside.

An application of these facts and conclusions to a study of the prognosis of acute lobar pneumonia is particularly relevant, inasmuch as that disease is a limited affection of comparatively brief duration that, in its essential action and normally considered, is not a dangerous malady, but tends to recovery, and hence can not be considered dangerous in itself; but that, when its course is influenced by extraneous, concurrent, idiopathic, or complicating conditions, tends (by reason of the very important site and the sudden formation and obstructive character of its local process, the vital importance of the functions involved by its development, and the character of the morbid action developed to overcome its presence) to the occurrence of grave but often therapeutically preventable dangers that render it a most fatal malady.

As we shall see by the statements of various authorities and by statistics, acute lobar pneumonia presents the seeming anomaly of being considered both a harmless disease, from which death is an exceptional result, and also a most dangerous affection, from which death results in a large percentage of all the cases.

It is worthy of observation here that these varying and, on the one hand, very grave results have not yet been rationally accounted for. And, in my opinion, it is not going too far to say they can not be explained upon any ground of theory for the disease yet entertained; neither upon the basis that it is an inflammatory disease which attacks the lungs, nor upon the more recently propounded theory that it is a constitutional, infectious, and essential fever, with a pulmonary lesion. Furthermore, that the more unfavorable results can not be attributed to a failure to employ certain remedial measures in treatment is evident from the fact that they have occurred with every treatment —least with the expectant—yet tried, and all measures of treatment have been fully tried.

I hold, however, that such varying results are clearly explicable upon the theory put forth by me—namely, that acute pneumonia is simply a functional and dynamic malady (from disturbance of circulatory equilibrium and its results) —and that they are the natural outcome of such a dynamic action occurring in the organs involved in subjects of the various asthenic—idiopathic, concurrent, or complicating—states in which the disease is most likely to occur, especially when its course is not directed and controlled by a properly indicated treatment; and, secondly, that a careful analysis of prognostic conditions will sustain such position.

The grave importance of acute lobar pneumonia as it occurs in this city, picking out here and there prominent victims in the midst of their greatest usefulness, and as it occurs universally in man and in some of the more valuable domestic animals, with its sudden and more frequently unheralded attack, many dangers, and, in the total, its great fatality on the one hand; and, as I hold, its susceptibility to a rational treatment with a diminished fatality on the other—fully justify the expenditure of any amount of time, study, and care given to its prognostic (and therapeutic) conditions.

As generally held, a more unfavorable prognosis of acute lobar pneumonia depends mainly upon the following conditions: A greater extent of the local process; an apex development; a greater intensity of fever; advanced age of the patient; the female sex; previous bad habits of life; a debilitated constitution, and, in an important sense, the occurrence of complications. While these are deemed the more important of the unfavorable prognostic conditions, there are others which result from the action that denote the progress and character of its events, not of less, but of equal immediate significance, which will be enumerated later.

Taking up the study of those enumerated and in the order given, I shall first examine the extent of lung involved, and ask, Does a greater extent of local process, in harmony with general teaching, justify a worse prognosis? General teaching upon this point is represented in the following citations: Juergensen (von Ziemssen's "Cyclopædia," vol. v, p. 142) says: "The more extensive the localization of pneumonia, and the more protracted the constitutional affection, the greater, *cœteris paribus*, is the danger to life."

Von Niemeyer ("Practice of Medicine," vol. ii, p. 183) says: "The prognosis, first of all, must depend upon the extent of the disease." Watson attributes something to the extent of the local process. Loomis ("Practice of Medicine," p. 95) says: "The extent of lung involved influences prognosis; double pneumonia is rarely recovered from." Aitken, on the other hand ("Science and Practice of Medicine," vol. ii, p. 741), declares that "the degree and extent of the physical signs alone should not influence the prognosis."

A more extensive local process is, then, very generally held to indicate a worse prognosis. Contrary to such teaching, however, I hold that the evidence afforded does not show that the results of a pneumonic attack are necessarily less favorable when there develops a more extensive local process.

If we regard the local process as an inflammation, essentially speaking, of the pulmonary stroma, then I grant that it would follow as a natural inference and sequence that its greater extent should lead to more unfavorable and fatal results. But that the local process is essentially inflammatory I hold can not be maintained, and, therefore, an inference based on that theory is invalid. Inasmuch as a settlement of this question is of moment in its present bearing also upon the question of general treatment, and in relation to a determination of the main question at issue, as to the true nature and essential character of pneumonia, and also, inasmuch as my view is opposed to all other past and present teaching upon this point, I shall proceed to give the negative evidence, even at length, without apology, letting the importance of the question justify such action.

The evidence that the local process of acute lobar pneumonia is not an inflammation is as follows: As a process, on the whole, it is unlike any of the well-accepted inflammations—as to its causation, mode of development, rapidity of complete formation, anatomical characters, character of events, limitation, and negative morbid results. Its causation, it is generally conceded, is involved in doubt and obscurity, while the causes of inflammatory processes in general are readily traced. Its occurrence does not coincide temporarily or spatially with that of inflammations in general, and especially not with either of the undoubted inflammations to which it is most nearly allied anatomically, bronchitis or pleurisy, which affections occupy in part the same structures it involves. Acute pneumonia occurs less frequently than those affections do in the farther North, and more frequently than they do in tropical regions; and while they occur more frequently throughout the year, it occurs most in the changing temperatures of midwinter and spring. It is unlike those diseases in its recurrence, which varies in different years, while they vary in this respect very little from year to year. Again, it is not set up by these inflammations, although, as stated, they implicate in part the same structures it involves, and it is especially unlike an inflammatory process in that it is not excited by extrinsic irritating agencies, is not set up by contiguous inflammations, and is not excited by a contiguous gangrene, emphysema, or pulmonary infarction, although a degree of peripheral inflammation may result from the latter cause, and, lastly, in not being developed from traumatism.

In its general anatomical events it is unlike an inflammatory process—in the character of its congestion, such being within the region involved, and that ultimately becomes solidified, strictly passive. In a true inflammatory action of an acute character, with a force and rapidity of development equal to the rapidity and development of a normally considered pneumonic process, congestion is eminently active, such being characterized by a more rapid determination of blood to the part and through the part, and by an increased acceleration of blood from the part. In this process, although the functional forces which cause the movement of the blood, the combined circulatory and the respiratory, are increased in rapidity of action and in energy, yet that fluid does not arrive at, affect, and depart from the locus morbi more quickly than in health; nay, it does not pass directly through the involved region at all, or but in comparatively small quantity, and that which does enter it does not leave it again, but is expressed into the exudate and there destroyed.

Again, this congestion is unlike an inflammatory congestion in the character of the blood involved, which is not arterial, except what may reach the part through the half-filled bronchial arteries, but is venous. This venous blood is deoxidized, and, furthermore, is charged with carbonic acid, and hence chemically incapable, in both a positive and a negative sense, of generating and maintaining an inflammatory action. The cyanosed condition of the patient is evidence that the blood is involved prior to becoming arterialized, and therefore that consolidation occurs with venous blood.

In the character of its exudate this process is unlike an inflammation in its being mainly, as a rule, hæmorrhagic, while in an inflammatory action a hæmorrhagic exudation is the exception; in consisting of preformed non-pyogenic products; in the rapidity and extent (amount) of its formation, and in its occurrence, considering its hæmorrhagic character, without causing some degree of anatomical injury to the delicate structures involved; in its action in not undergoing histotrophic development, but in forming by simple coagulation; in its destiny, in not remaining for a time adherent to and binding together the opposing surfaces from which it pours; in its instability, which permits of its quick degeneration and removal almost immediately after it is formed; in its special tendency as an exudate to degenerate first peripherally, where it comes in contact with the alveolar walls and vesicular septa, and from without inward rather than from within outward, which is the rule in an inflammatory exudate; in its varying stages of progress, shown generally by its mottled red and gray, found on section in limited areas and in close relation throughout, which appearances (as to color) are not found in structures subject to a true inflammatory action and exudation; and, finally, in its quick liquefaction and, as a rule, in typical cases, entire removal.

In the effect of this process upon the pulmonary structures involved it is not like an inflammation. This effect, except in a nutritive sense and temporarily at that, is entirely negative; neither are the delicate capillary vessels that are directly implicated, and from which its immense exudation pours, structurally or seriously impaired by its process of development, sojourn, or removal; nor are the pulmonary structures, the vesicular walls and vesicular septa, functionally or organically impaired by it, an early return of function and of the vesicular murmur being ample evidence of such negative results. In no true inflammatory implication of an acute, sthenic action where the exudate is hæmorrhagic, even to a much less degree than occurs in an average pneumonia, do such negative results to the structures occur.

This process, furthermore, is unlike an inflammation in its limitation to certain parts of the organs affected—*i. e.*, to certain lobular and lobar areas—and in not developing diffusely throughout both lungs, which—except a greater predisposition of the action (process) to develop in certain localities of the lungs, to be explained by the greater natural impingement of the circulating force at such point on the one hand, or to an unequal capacity for resistance (nutritive) on the other, in structure and in relation to the quantity and quality of the circulating blood—are throughout similar, and therefore should be equally liable in every way to an inflammatory action and result. In the unequal progress of its advance and development (shown in the appearance of unequal color mentioned), which merely denotes different stages of advancement (Bennett), instead of by a continuously even advance—involving first contiguous structures, and in its preference for certain sites of development, namely, the bases of the lungs, and notably the base of the right lung—it does not conform to an inflammatory invasion and extension.

Again, that the essential action of a pneumonic process is not inflammatory is reasonably apparent from the absence of one result which should occur from an inflammatory action in the site at which a pneumonic process develops. It must appear, from the obstruction to the circulation which occurs from a developing pneumonic process, and from the co-existing cyanosis, that the primary and specific site of the action taking place, with reference to the pulmonary capillaries, is at a point just prior to that at which, in a functional sense, the blood is rendered arterial, and therefore within the venous tract—physiologically speaking, in the venous capillaries—and hence, if its action is an inflammation, must be a phlebitis. If, however, we deny that the vessels affected are veins, then we must admit that the efferent capillaries are veins; and, as they are also somewhat involved by implication, a phlebitis, even then, to some extent must result.

If a phlebitis formed the principal or a secondary feature of a pneumonic action, as there is no limiting membrane formed to prevent, and, furthermore, as no complete stasis of the circulation occurs to prevent, pus should result and find its way into the circulation, and pyæmia and its consequences should be a constant result of such action. As pyæmia does not result from pneumonia, even under these favorable conditions, we may conclude that there is not an inflammatory action to give rise to it.

The fact, also, of the unlikeness of this action in its events, products, and results, to either of the various recognized inflammations—to the cellular, the sero-fibrinous, necrotic, purulent, tubercular, reparative, or hyperplastic—renders its position as an inflammation most doubtful. The fact that this action is not abbreviated by depletion, as shown by the older statistics of treatment, when venesection was commonly practiced, and in many cases *coup sur coup* (clearly pointed out by Bennett in his clinical lectures), as an inflammatory action would be by such treatment, is evidence to some degree that it is not an inflammation. Although some temporary relief was obtained by bleeding in many cases—due, probably, to a temporary lessening of circulatory pressure and of congestion in the lungs—yet a permanent benefit, denoted by a shortening of the process, did not result, but the usual duration, and in many cases where bleeding was excessive a lengthened duration, was required to bring about convalescence.

And we may further refer in this place to two facts already alluded to as relative evidence. First, with regard to the nature of the action and its results: If the essential action of a pneumonic process and its exudation were inflammatory, the degree of such action, as it is characterized by the constitutional and physical signs and by its exudate or sputum, would naturally, if not entirely, destroy the structures directly involved, as they are held (I think erroneously) to be destroyed by Heitzman ("Microscopic Morphology in Health and Disease," p. 719), or at least lead to the development of such adhesions between the closely contiguous alveolar surfaces as would agglutinate them into a solid mass, and thereby prevent, if not permanently destroy, their further functional action. Such results of an essentially inflammatory process in the lung stroma are to be inferred not only from the close relation of the structures, and their comparatively slight or no action one upon the other, and also from the more or less constant effects of a like graded pleurisy or pericarditis, in which adhesions are the rule, but in which, owing to the greater movements of the applied diseased surfaces, they should be less than would occur in a true inflammation of the pulmonary stroma.

Second. To the fact that the blood involved in the pneumonic process is carbonic, and that carbonic blood has not as yet been shown to have supported an inflammatory action.

Lastly. If the local process were an inflammation, when it involves any considerable extent of lung structure it should be attended with the development of local heat, and this sign should be subjective and objective, and its comparative degree determinable by the thermometer. This inference is supported by analogy, derived from the occurrence of every undoubted acute, sthenic, inflammatory action, and is in accord with general teaching, that a cardinal requirement justifying the presence of an inflammation, besides tumor, tenderness, and pain, is augmented heat.

From no point of view, ætiologically or pathologically considered, and from no other, excepting that of prejudice derived from hereditary teaching and the lack of a correct conception as to what the action might otherwise possibly be, can the hypothesis of an inflammation for this process be maintained; therefore the results predicated on such an hypothesis must be invalid.

Furthermore, that a greater extent of the local affection involves a more unfavorable prognosis upon other grounds I hold is not supported by the evidence of related facts—*i. e.*, by the relative statements of accepted authorities; by the conceded fact that there is a lack of morbid correspondence, generally speaking, between the extent of the local lesion, the degree or severity of the constitutional symptoms, and the final results; by some suggestions of a general character relative to prognosis, affirmative and negative; and, lastly, by observations as to the causes of its fatality.

Of relative statements by authorities: Aitken ("Science and Practice of Medicine," vol. ii, p. 741) says: "Acute simple lobar pneumonia, happening between the ages of fifteen and forty, uncomplicated except by a limited pleurisy, is not a perilous disorder; recovery is the rule." Although no mention respecting a greater or less extent of local process is made in this statement, yet the observation is not less applicable, for we must bear in mind that it is in these simple uncomplicated cases, occurring in the ages noted and in otherwise robust subjects, that the most (rapidly formed and most) extensive consolidations occur, and the statement that recovery is the rule in such cases certainly does not argue a worse prognosis on account simply of a greater extent of the local process. Flint ("Practice of Medicine," p. 171) states: "Occurring as a primary disease, limited to a lower lobe, remaining uncomplicated, and the person affected having a fair constitution, the intrinsic tendency is to recovery; indeed, recovery is not only the rule, but the exceptions are exceedingly infrequent." This author proceeds to give a case in point:

> The patient was attacked while working alone in a shanty in a swamp near New Orleans. It occurred in the winter season, and there were two inches of water on the ground. After the attack he was unable to leave the bed for any purpose for a week, and during that time he was entirely alone. He had a quart of brandy which he drank during the week. His habits, as stated, were temperate. At the end of a week he was visited by some one (not a physician) who gave him thirty grains of calomel. After this he was alone for ten days. A friend at length came to him and gave him some doses of quinine, and removed him first to his own house and afterward to the Charity Hospital, New Orleans. The principal signs on admission into the hospital showed pneumonitis affecting *the whole of the right lung* [italics mine] and resolution progressing. He remained at the hospital six days—convalescence going on rapidly—at the end of which time he was well enough to be discharged.

I quote this case entire, because (1) it is evidence that an extensive local process is not necessarily fatal even where the patient is most unfavorably situated, and is not only neither treated nor nursed, but is necessarily jeopardized by probable unavoidable exposure; and (2) because it serves to demonstrate that a well-marked and extensive pneumonia may end in recovery quite as quickly and favorably under no treatment, naturally, as it does under the highly empirical treatment it generally receives.

As bearing upon the point in question I quote from Andral ("Clinique médicale"):

> "By reason of some idiosyncrasy, simple engorgement of the lung, occupying but a small portion of that viscus, is sometimes fatal, while in another individual, placed in the same circumstances, a red hepatization occupying more space terminates in resolution."

Of conceded facts which imply that the prognosis of pneumonia is not essentially worse on account of a greater extent of local process, I give the following:

> "No constant or reliable relation exists between the local process, as shown by the physical signs and the vital phenomena" (Aitken). "The violence of the symptoms bears no necessary relation to the extent or intensity of the disease" (Bennett). "During the whole course of a pneumonia there is no constant relation between the local and the febrile symptoms, nor dependence the one upon the other" (Juergensen).

Again, it is well known that, although the physical signs may indicate an ameliorating condition in the affected lung, such change is not always—though in the main and generally it is—attended by a corresponding improvement in the constitutional symptoms. And, finally, as we shall see when we come to inquire into the causes of death, extent of local lesion, simply, will not be found to be one of them.

Other suggestions which give support to the position herein taken are: According to general admission, death does not, as a rule, result from acute pneumonia in subjects otherwise robust and strong in whom the most extensive consolidations occur, while, on the other hand, as we shall see when we come to examine the statistics of the fatality of pneumonia, death does occur most frequently in asthenic patients, in whom, as a rule, the local process is more limited.

Lastly, from personal observations of the disease in hospital and private practice, cases of extensive consolidation, involving a lobe or an entire lung, have resulted as favorably as others in which it has been less extensive. In fact, my observations justify the statement that, the more extensive and well-defined consolidations (as denoted by physical signs) have formed, especially if they have developed as a single and not as a recurrent formation, and have received the proper and not an improper treatment; the more rapidly they have undergone degenerate softening, the more promptly has the pneumonic crisis occurred, and the more favorable have the final results been. And this observation is not inharmonious with the evidence of authorities and conceded facts as given.

In conclusion, therefore, we must decide that the facts do not sustain the teaching that a more extensive local process necessarily implies a more unfavorable result from pneumonia; but, on the contrary, that they do afford grounds for a justifiable inference that, as a rule, the more extensive the local process, the more favorable is the prognosis.

(To be continued.)

Correspondence.

LETTER FROM PARIS.

Professor Germain Sée's Hospital Service and Therapeutical Teaching.— The Treatment of Abdominal Wounds.— An American Lady as a Hospital Interne.

PARIS, *February 2, 1887.*

PROFESSOR GERMAIN SÉE has a hospital service at the Hôtel Dieu, and every Monday he gives a clinical lecture that is substantially a *résumé* of his remarkable experiments with various new drugs. At present everybody is at work with the cardiac remedies, and considerable success has been met with here in the treatment of heart diseases with convallaria and also with sulphate of sparteine, Professor Sée's observations with the latter having lately been confirmed in the German schools. Other cardiac agents under study are strophantine and *Grindelia robusta*, but the most interesting experiments have been those lately made with antipyrine, which has been tried with a large number of patients suffering with various diseases. The results obtained are remarkable, and some of the applications of this remedy are quite new and well worthy of attention. One of the most striking cases was that of a hospital patient with hydrarthrosis. There was a very considerable effusion into the synovial sac of the knee, which entirely disappeared after a few doses of antipyrine. There were also cases of rheumatism, acute and chronic, including one of gonorrhœal rheumatism. In a word, a number of arthritic and other patients were cured. The effect of the drug in neuralgias was constantly good. In cases of gouty and other concretions it has seemed to act as a solvent. M. Capitan, the *chef de clinique*, calls it a "*sur-salicyle*," because it has cured cases of acute rheumatism in which the salicylates had failed to do any good. In regard to collapse from its use, it has been seen only once, in a case of phthisis, but it has not been tried here at all in typhoid fever nor as an antipyretic.

Professor Sée is very fond of talking on the subject of megrim, as he himself is subject to sick headaches. He finds that the only remedies worthy of consideration in this complaint are bromide of potassium and caffeine, with the occasional use of quinine. He ridicules the study of exceptional cases by young physicians, and thinks that it is much better for them to grasp what he calls the "master symptoms" in all diseases. In like manner, with regard to the great number of remedies that are found mentioned in connection with a given disease, he says it is a pity to trifle with ardent young doctors, who go to their books and search the chapters on treatment for a remedy in a case they may have, only to find several dozens recommended, for as many reasons, thus leaving the inexperienced man in a perfect daze. The result must be that he can have no clear idea of what he ought to do in a given case. Altering the rule, M. Sée proposes to offer but few therapeutical measures, and those only that are based on physiological data. To return to the megrim, or migraine; in regard to the bromides, he thinks that it is an error to suppose that bromide of sodium has any advantage over potassium bromide. Professor Bouchard published a good deal last year to prove that we were almost all being poisoned with potash, but M. Sée calls attention to the fact that potassium bromide is eliminated by the kidneys as a sodium compound—that, in fact, the two metals are intimately associated in the economy, the blood-corpuscles containing potassium, and the blood-serum sodium. We can not eat meat but we take potassium. "Look," says M. Sée, "at the poor Irishman who lives on potatoes for most of his life; do the sodium-*versus*-potassium doctors know that there is from six to seven per cent. of potassium in potatoes? According to them, then, our Irish friend is poisoning himself very rapidly." Antipyrine has been recommended in megrim, but M. Sée finds that it produces a cephalalgia in addition to that which already exists, and causes vomiting, if used in large doses, while in small ones it is of no use at all. The minimum daily amount is a drachm. Neither antipyrine, salicylic acid, nor any other of the antipyretics is of use in malarial fevers, and, although Jaccoud and Vulpian have advised them in tubercular states, M. Sée does not think them of any benefit in those troubles. Gout, of the pure sort, seems to be mitigated with antipyrine. M. Sée states that pure gout does not occur in women.

The treatment of abdominal wounds has been under discussion by the Paris surgeons lately, and, as usual, they are divided into two camps, one party holding, with Professor Trélat, that laparotomy ought to be done at once, and the other, with M. Verneuil, that the expectant treatment is proper. M. Trélat says that it is a precept in America that in all doubtful cases the belly must be opened to ascertain the condition of the intestines. M. Réclus lately expounded the idea of the expectant treatment, and it is that of many good surgeons. Setting aside wounds made with large projectiles in time of war, and referring only to the every-day cases of pistol-shot and stab wounds, "What happens," he says, "when an intestine is cut by a ball or a knife? Why, there is an effusion of lymph, and, if they can be kept quiet, the divided parts will certainly join and heal." Therefore, with Tillaux, Després, and others, he proposes the following plan of treatment: "When the patient is first seen, don't attempt to probe the wound, but wash it with a solution of corrosive sublimate (1 to 1,000), and close it with a little collodion; then put the patient's body in as complete a state of immobility as possible by position in bed, give opium enough to stop all peristaltic action, apply an ice-bag to the abdomen, and allow no food but iced milk, not more than a tablespoonful at a time." Of course, if peritonitis comes on, or even if there is a discharge of fæcal matter from the wound, laparotomy is indicated; but it is astonishing how a pistol-ball may remain in almost any part of the body during the life of the individual without doing the slightest harm. The lesson is, Don't probe!

It may interest your readers to learn that an American lady, Miss Klumpke, formerly of Boston, has been admitted as an interne of the Paris hospitals, and has been assigned to the charge of a service in the hôpital de Lourcine. Last year, for the first time, after a determined fight, ladies were allowed to take part in the public trial for the *internat*, with the result that this lady came in fifth in the list this year.

Malto-Viburnin.—We have received from the Maltine Manufacturing Company a sample of their malto-viburnin, which they recommend as a valuable remedy for painful and excessive menstruation. *Viburnum prunifolium* was, as it will be remembered, first brought before the notice of the profession as a reliable agent in arresting some forms of abortion, by Dr. J. H. Wilson in the pages of this Journal. Since then it has been tried extensively, and very good accounts have been published regarding it. It had a serious drawback, however, inasmuch as the liquid preparations were very disagreeable to the taste, and this practically limited its employment to those who could take it in pill form. This difficulty has now been satisfactorily removed by the Maltine Manufacturing Company, the preparation forwarded to us being fairly palatable, and not likely to be seriously objected to by the most fastidious palates. Not only does the combination with maltine remove its disagreeable flavor, it will also be of decided advantage in many cases from a therapeutical point of view.—*Liverpool Med.-chir Journal.*

THE
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THROAT SYMPTOMS PRODUCED BY HYPERTROPHIED GLAND TISSUE AT THE BASE OF THE TONGUE.

One would hardly think of making a physical examination to discover the cause of globus hystericus; it is usually thought sufficient to refer the symptoms with which we are familiar under that name to the uncertain limbo of hysterical phenomena. But the term is a somewhat vague one, and has been made to embrace a great variety of manifestations and many different phases. There is good reason to believe that it has often been loosely employed when an ætiological factor much more tangible than a purely hysterical cause was overlooked. It seems that symptoms that have frequently been described as characteristic of globus hystericus find their exact counterpart in the subjective manifestations of an organic disease of certain glands situated at the back part of the tongue.

At the instigation of Professor Hagen, of Leipsic, Dr. H. L. Swain, of New Haven, has made a special study of this glandular affection, and the results are published, under the title of "Die Balgdrüsen am Zungengrunde und deren Hypertrophie," in a recent number of the "Deutsches Archiv für klinische Medicin." The disease consists in a hypertrophic development of the clustered glands which are situated just beneath the mucous membrane of the tongue, between the circumvallate papillæ and the glosso-epiglottidean sinuses, having a lymphatic structure analogous to that of the tonsils. When hypertrophy of these glands takes place, which is said to be the result of physiological rather than of pathological conditions, they become vastly increased in size, so as to project more or less prominently above the level of the mucous membrane, in the form of closely aggregated tubercular elevations. They may become large enough to hide the epiglottis completely from view, and, chiefly by their encroachment on the latter, give rise to more or less serious disturbance in the throat. The sense of a morbid enlargement becomes a source of intermittent or constant discomfort to the patient, with the feeling of a foreign body, or "lump," in the throat, attended usually with a frequent desire to swallow. Sometimes it is accompanied with decided pain, which may radiate to regions remote from the seat of disease. Moreover, the swelling may cause no little interference with the speaking or the singing voice. Singers complain that the voice soon becomes fatigued, and that it is with difficulty that a clear tone can be produced; and like trouble is met with in speaking. The varied movements of the tongue and the larynx in these acts give rise to continual friction between the epiglottis and the hypertrophied surface of the tongue, producing impairment of the voice sounds as well as nervous irritation. The latter would naturally be much greater in a nervous or hysterical subject, and might readily assume an aggravated form of globus hystericus. Fortunately, according to Hagen and Swain's experience, the trouble is quite remediable. The treatment consists simply in painting the affected surface with Lugol's solution, using a brush mounted on a bent rod, with the aid of the laryngoscopic mirror. Those observers have never found any severer treatment necessary.

A MAINE DIPLOMA MILL.

The "Boston Herald" has lately done the community a notable service by bringing to light the doings of a man named York and his associates, who, under cover of legislative authority, have been exploiting the diploma industry in Lewiston, Me. A representative of that journal, who states that he is utterly ignorant of medicine, found no special difficulty in obtaining from the medical department of the State of Maine branch of the "Druidic University of America" a diploma authorizing him to practice medicine. He obtained it without the slightest pretense of having done any study in the "university," simply on the strength of his statement to the "dean," the fellow York, that he had studied medicine to a certain extent—a statement supplemented by the farce of his being examined (by the aforesaid "dean" alone) in such manner as effectually to demonstrate both his and the "dean's" entire lack of medical knowledge. In plain English, the diploma was sold to him, and the whole transaction, from the time of his first call on York to his obtaining the document, was the work of a few hours only.

These facts are, of course, most disgraceful, but, essentially, they are but the repetition of what has come to be an old story. The remarkable feature in the case is the failure of the well-meaning legislators who passed the act of incorporation, and the Governor who signed the bill, to perceive that they were participating in a most grotesque piece of silliness as well as in an inexcusable iniquity; for, not content with the rôle ordinarily played by men of their stripe, York and his associates came before the law-makers in the characters of "Druids," "Bards," "Runes," and the like, the mere mention of which ought to have opened the eyes of even the average legislator. The people of Maine are now likely to have the pleasure of paying the expenses to be incurred by "a joint special committee on the part of the House, and such as the Senate may join, . . . to inquire into the expediency of repealing the charters of the Maine branch of the Druidic University and the Maine Eclectic Medical College, and to have power to send for persons and papers, compel the attendance of witnesses, and employ a stenographer"—a bill to that effect having been introduced by a member for Lewiston. It is a pity that the men who granted the charters in question can not be made to bear the expense of this investigation themselves.

MINOR PARAGRAPHS.

MEDICAL OBSERVATIONS AMONG THE APACHES.

Dr. William H. Corbusier, of the army, has written a most interesting account of his observations among the Apache-

Yumas and the Apache-Mojaves of Arizona, which is published in a recent number of the "American Antiquarian." Although the greater part of the article has no direct bearing on medicine, there are passages here and there calculated to arrest the attention of the medical reader. One of the most notable of these is an allusion to what we may perhaps interpret as a phase of sexual life analogous to the rut of the lower animals. Dr. Corbusier says that for two years in succession he observed that the women solicited the attentions of the men in August and September, when "an unusual number of couples were seen with their heads hidden in a blanket, caressing each other." The majority of the children, he adds, were born in the spring. During parturition, the woman squats, and is assisted by an old woman, who compresses the abdomen, follows the uterus down, and, in cases of difficult labor, seems to make great efforts to express the fœtus. After delivery, the mother draws a roll of buckskin snugly around her waist, and resumes her ordinary duties, but her diet is restricted for three or four days. Inflammation of the breast occurs occasionally, the treatment of which consists in holding the breast over a hot stone and pressing some of the milk out upon it. The author does not credit these Indians with the capacity for enduring physical suffering that is commonly attributed to savages. When they are not painted, he says, it is easy to detect their emotions, and they do not maintain their stolidity under minor surgical operations, the extraction of a tooth, for example, almost always eliciting a groan or a yell. Their teeth are often decayed, but never affected with tartar.

THE DEATH OF SCHROEDER, GALLARD, AND RAIGE-DELORME.

Announcements reach us almost simultaneously of the death of the distinguished Berlin gynæcologist, Professor Carl Schroeder; of a Paris gynæcologist almost as well known, Professor T. Gallard; and of one of the most erudite of Paris physicians, M. Raige-Delorme. Schroeder was best known in this country as an original and bold operator in the field of gynæcology, and it can be said of him that he exerted a sensible influence on the gynæcology of his time. His earlier work in obstetrics deserves to be more studied here than it has been, and it is a pity that an abbreviated translation of his text-book on the subject is all that is available to the great majority of American and British readers. Dr. Gallard's death took place on the 31st of January, from diabetes. He was one of the few French physicians who had recently contributed voluminously to the literature of gynæcology. His clinic at the Hôtel Dieu had only lately been entirely refitted with modern appliances, and is said to be quite a model in its way. M. Raige-Delorme was one of the founders of the "Archives générales de médecine," the originator of the "Dictionnaire en trente volumes," and (in conjunction with the late M. Dechambre) the editor of the "Dictionnaire encyclopédique des sciences médicales." It is seldom indeed that medicine has had to bear the loss of three such men almost at the same time.

THE ANNUAL REPORT OF THE SURGEON-GENERAL OF THE NAVY.

Surgeon-General Gunnell's Report for the year 1886, together with the appended documents, makes a volume of 126 pages. Interesting reports from various foreign stations and upon individual vessels are furnished by members of the medical corps, and will be found to contain much matter of scientific value. There is also a carefully prepared report on the Museum of Hygiene, by Medical Director T. J. Turner. The reports and contributions on special subjects include Surgeon G. W. Woods's on "Filaria in Dogs," Medical Director A. L. Gihon's and Medical Inspector A. Hudson's on "Kola as a Therapeutic Agent," Passed Assistant Surgeon O. Diehl's on "Typhlitis," Surgeon J. R. Tryon's on "Paraldehyde in Insomnia," Surgeon A. F. Price's on "Cholera," and Surgeon-General Gunnell's "Notes on the use of Opium in Fevers." We have before alluded to some of the important matters touched on in the Surgeon-General's Report. We will only add now that the volume will be found of value to any medical man.

"DEBAUCHING" GYNÆCOLOGICAL EXAMINATIONS.

Dr. Wilcox, as will be seen by his article on "*Hydrastis canadensis*," published in this issue of the Journal, would have it the established rule that "no examination of [the genitalia of] an unmarried woman should be made unless with the unanimous decision of a consultation, one of the physicians, at least, to be a general practitioner," and he speaks of "unnecessary and debauching examinations." In the discussion that followed the reading of the paper, Dr. Wilcox substantially reiterated these statements after Dr. Palmer Dudley had, very properly we think, characterized them as too sweeping. Dr. Wilcox's sentiment in regard to unnecessary examinations is that of all right-minded men, but it is impossible for men of that sort to make a "debauching" examination, and men who do not come under that head are not likely to flourish in the practice of medicine. Indeed, we believe that the profession contains so few of them that practically they are of no account.

BOSTON UNDERGRADUATES AS PRACTITIONERS.

The statement is made in one of the Boston newspapers that a number of medical students have established themselves in practice near the head of McLean Street—somewhat clandestinely, it is suggested, for the building is said to be "to all appearances a boarding-house simply." The account goes on to say that they have been so far successful as to have had eighty cases of obstetrics on their list at one time, and that they are constantly on the alert for new clients of every description. Their enterprise, coupled with the proximity of their quarters to a lying-in hospital, in consequence of which many persons take it for granted that they are connected with the institution, is said to give them advantages detrimental to the interests of the established practitioners of that part of the city. These allegations may be somewhat exaggerated, but, if there is a foundation of truth for them, the young gentlemen concerned should be made to understand that they must wait.

THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

We understand that at its last meeting, held on Tuesday evening, the society adopted the report of a committee recommending the purchase of a piece of real estate on which to build a structure suitable for its library and for a place of meeting; and that Dr. Thallon, Dr. Matheson, Dr. Jewett, Dr. Hunt, and Dr. Hutchins were appointed to make the purchase. We have lately had the pleasure of recording several evidences of the progressive and flourishing state of professional matters in Brooklyn, and it is our conviction that this move on the part of the county society will prove not to be the least important of such events.

ITEMS, ETC.

McComb City, Miss., as a Health Resort.—A correspondent writes: "This place accomplishes wonders in pulmonary troubles. It has proved a revelation to me—nearly every tubercular patient recovers here. I think the afflicted should know of it. It is in the high pine woods, the bluff formation of South Mississippi, seventy-five or one hundred miles from any swamps or marshes."

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 15, 1887:

DISEASES.	Week ending Feb. 8.		Week ending Feb. 15.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	0	0	0
Typhoid fever	7	5	6	1
Scarlet fever	36	2	56	13
Cerebro-spinal meningitis	4	3	1	1
Measles	406	58	347	62
Diphtheria	116	38	107	48
Small-pox	6	2	14	6

The Painless Execution of Criminals.—It is announced that Dr. F. H. Gerrish, of Portland, recently appeared before a committee of the Maine Legislature to advocate the abolition of the gallows, and the substitution of poisoning with morphine administered subcutaneously.

Cocaine as a Poison.—At the last meeting of the Medical Society of the County of Kings, Dr. J. B. Mattison read a paper entitled "Cocaine Dosage and Cocaine Addiction," after which the meeting unanimously passed a motion, offered by Dr. Skene, appointing Dr. Wallace, Dr. De la Vergne, and Dr. Mattison a committee to draft a bill for presentation to the Legislature, placing cocaine on the list of poisonous drugs not to be dispensed except on physicians' prescriptions.

The late Dr. John P. Gray.—The secretary of the New York State Medical Association has sent us the following:

"The members of the Council of the New York State Medical Association, while humbly submitting to the decrees of Providence, realize with much grief that the year just closed was made notably sad in the loss by death of so many of their fellows whose labors have largely contributed to the honor, dignity, and usefulness of the medical profession. They now mourn the loss of the second president, Dr. John Perdue Gray, whose aid, wise counsels, and personal work have been of such signal service. In common with all the fellows of the association, and with the medical profession at large, they sorrow for the death of one who had rendered himself so useful to the State in the guidance of the charitable work in the department of medicine in which he had become a shining light.

"The Council, therefore, resolved that the foregoing be published in the forthcoming volume of the 'Transactions' of the association, and in the medical journals, and that a copy thereof be transmitted to the family of the deceased."

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 6, 1887, to February 12, 1887:*

Fryer, Blencowe E., Major and Surgeon. Ordered to Fort Lowell, Arizona Territory. S. O. 29, A. G. O., February 4, 1887.

Loring, L. Y., Captain and Assistant Surgeon. Leave of absence still further extended three months on surgeon's certificate of disability. S. O. 29, A. G. O., February 4, 1887.

Phillips, John L., First Lieutenant and Assistant Surgeon. Leave of absence further extended one month. S. O. 29, A. G. O., February 4, 1887.

Wood, Leonard, First Lieutenant and Assistant Surgeon. Ordered to proceed to these headquarters and report to the department commander for temporary duty. S. O. 12, Department of Arizona, January 31, 1887.

Harris, H. S. T., First Lieutenant and Assistant Surgeon. Ordered from Fort Clark, Texas, to Fort Ringgold, Texas. S. O. 16, Department of Texas, January 31, 1887.

Society Meetings for the Coming Week:

Monday, *February 21st:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *February 22d:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private); Boston Society of Medical Sciences (private).

Wednesday, *February 23d:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Auburn, N. Y., City Medical Association; Berkshire, Mass., Medical Society (Pittsfield); Philadelphia County Medical Society (conversational).

Thursday, *February 24th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private); Cumberland, Me., County Medical Society (Portland); Pathological Society of Philadelphia.

Friday, *February 25th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *February 26th:* New York Medical and Surgical Society (private).

OBITUARY NOTES.

Luther M. Knight, M. D., of Franklin, N. H., whose death occurred on the 3d inst., was born in Franconia, N. H., April 11, 1810, and was graduated from Dartmouth Medical College in 1835, in which year he settled in Thornton, where he practiced for ten years. He moved to Franklin in 1845. In September, 1861, he was appointed surgeon of the Fifth New Hampshire regiment, and rose to the rank of brigade surgeon, and subsequently to that of chief medical officer of a division. He resigned in May, 1863, in consequence of impaired health. He had represented Franklin in the State Legislature, and was at one time president of the New Hampshire State Medical Society.

Ezra Dyer, M. D., of Newport, R. I., died on Wednesday, February 9th, on board the steamer City of Columbia, of the New York and Savannah line, during the passage to New York. The deceased was born in Boston, October 17, 1836. He was graduated from Harvard University in 1857, and from Harvard Medical School in 1859. He was house surgeon at the Massachusetts General Hospital for one year, and after his graduation pursued his studies at Dublin, Rome, Vienna, Paris, and London, making the study of the eye a specialty. Returning to this country, he settled in Philadelphia, where during the civil war he was surgeon in charge of the eye wards of the Satterlee United States Army General Hospital. In 1883 he moved to Newport. He was a member of the American Ophthalmological Society, of the Rhode Island State Medical Society, and of the Newport Medical Society, of which he was vice-president at the time of his death.

Albion D. Weeks, M. D., of Providence, R. I., who had lain at the point of death for several weeks, died on the 10th inst.

A post-mortem examination showed the cause of death to be a tumor of the brain. Dr. Weeks had been failing in health for nearly a year, although his final illness lasted about five weeks, during which time he suffered intense pain. He was born in Maine forty years ago, and was educated at the Medical College of the University of Pennsylvania. He began practice in Providence in 1874 and had succeeded in building up a handsome practice. Personally he was little known to the public, but professionally he was highly esteemed by his patients as a kind-hearted man and a skillful physician.

William A. Webster, M. D., of Manchester, N. H., died February 7th, at the age of fifty-six. He was graduated from the Long Island College Hospital in 1862, and was appointed surgeon of the Ninth New Hampshire regiment, in which he served until 1864, when he appointed medical director of the Second Division of the Ninth Corps. He was a member of the New Hampshire State Medical Society.

Letters to the Editor.

TRANSITORY SWELLINGS IN A CHILD.

San Francisco, *January 29, 1887.*

To the Editor of the New York Medical Journal:

Sir: I send you the following account of what, to me, is a peculiar case, hoping you can furnish some explanation or recommend some book where I can look up the subject more thoroughly. The patient, a child twelve years of age, has been subject to epileptic attacks for the last four years, the cause of which was supposed to be a tænia, which disappeared after the use of anthelmintics four years ago, and has not recurred. The epileptic attacks have continued, however, decreasing somewhat under the influence of the bromides and borax. Although apparently well nourished, the child is of a nervous, excitable disposition, sleeping badly, and being subject to repeated hallucinations on waking. A few days ago I was called to see him during an epileptic attack, and the mother gave the following account: Having fallen in the street and been brought home, the child had involuntary passages of urine and fæces, frothing at the mouth, etc.; but what frightened the family most of all was an enormous swelling behind and a little below the right ear. As they had never observed anything of the sort before, they feared that the child had injured himself by falling. On examination, there appeared to be nothing to verify any such statement; there was absolutely no swelling or inflammation, and the child had rallied unusually well from the attack. At one point, however, about two inches below the insertion of the sterno-cleido-mastoid muscle, on the right side, there seemed to be a spot marked by exaggerated tenderness, and the mother asserted that ten minutes before there had been an enormous "bunch" there. The child, who had never before resisted examination, became intractable the moment this spot was touched. Satisfied that there was nothing further than a little idiosyncrasy of temper present, I sat down to listen to the mother's statements. A minute or two later, on looking at the child, to my surprise I saw a swelling of nearly twice the size of a hen's egg at the very spot that had been pointed out to me as the one at which it had occurred before. A second examination was then made. The swelling was hard and tense; there was no abrupt line of demarkation, but it seemed to shade off gradually into the surrounding tissues. There was neither pulsation, elevation of temperature, nor apparent rigidity of the muscles, unless at this spot, nor any redness. The head could be moved at will, although its motion was somewhat restricted by the size of the swelling, and the child complained that it pained him. Talking, and relaxation of the muscles by turning the head over on to the right side, failed to cause a disappearance of this singular tumor, and did not seem to aid in the diagnosis of the part affected. The heart's action was somewhat rapid, probably from excitement, but its sounds were normal. The temperature was 99°, the pulse 85. The swelling disappeared as rapidly as it had come, leaving nothing but the "sore spot" behind. There was no enlargement of glands, post-auricular or post-cervical, and I now knew as much about the cause as before. There was no reaction from pressure over the ordinary hystero epileptic zones, and, if this is to be classed as hystero-epilepsy or phantom tumor accompanying it, there certainly are wanting all the causes Pepper's "System" gives for its origin. The child has always complained of more or less pain around the locality of the occipito-parietal suture even between the attacks, but, other than a supposition of possible spicula of bone, no cause has ever suggested itself to my mind.

What I would like to know is this: What was the seat and what the cause of these swellings? Do they often occur in this locality? Does the rapid recovery of consciousness (in about an hour from the attack) point to an hysterical factor, and would not the age of the child preclude its entering into the subject?

H. W. Faulkner.

Proceedings of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of December 27, 1886.

The President, Dr. Laurence Johnson, in the Chair.

The Treatment of Hernia by Subcutaneous Injection.—Dr. W. B. De Garmo first gave a brief history of the treatment of hernia by methods purporting to be subcutaneous, the object of all of which had been, up to the time of the publication of Heaton's method, to cause obliteration of the hernial sac. Heaton had been practicing his method, and obtaining many cures, since 1843, but he refused to make it known until 1877. From that time dated a new era in the treatment of hernia. Heaton made no attempt to destroy the hernial sac; the whole object of his operation was to so fortify the fibrous tissue surrounding the canal that protrusion would not occur. His method stood alone; it differed in every way from previous methods of subcutaneous treatment; the fluid injected was astringent and mildly irritant, and its action was brought to bear upon the muscular and tendinous structures of which the inguinal canal was composed and upon the connective tissue which bound these layers together. That improvement and practically cures would result from injections of this oak-bark solution the reader had had abundant evidence, and he could also state that it was practically without danger, at least when correctly employed. Several years ago he stood almost alone in indorsing the method, but since then it had been adopted by many others. That frequent failures had occurred was beyond question. To throw light upon the cause of some of the failures was a principal object of the paper. In the first place, too much had been expected of the operation, and this was in great part due to the manner in which Heaton placed it before the profession. It was quite natural that he, after so large an experience, should have met with greater success than the general operator. Then the method had been put to unfair tests. For instance, he had known patients to be allowed to go about immediately after rising from the bed, seven or ten days after the operation, without any support. They had even been instructed to cough or strain in order to test whether or not the hernia would recur. A second error was the anticipation of a cure in old herniæ by a single injection. In these herniæ the sac was largely dilated and the canal shortened, and there was a funnel-shaped opening at the internal ring—conditions most favorable for the protrusion of the hernia—and it was very necessary to continue wearing a support. It was cases of oblique inguinal hernia of recent date, in which but few pathological changes had taken place, that were most readily cured by this method. That many errors had been committed in the performance of the operation he had abundant evidence. One error in operating consisted in puncturing the scrotal tissue invaginated by the finger, instead of inserting the needle directly into the canal. In order to enter the canal without injuring the cord he deflected this for convenience to the outer side, instead of to the inner, as advised by Heaton. Immediately and for some moments after withdrawing the needle he made firm pressure over the point of entrance to prevent the return of the fluid in the track of the needle. Some English surgeons laid the sac open and smeared it with the fluid, but there was nothing to be gained by this method, while it added danger. The reader had never observed abscess develop from subcutaneous injection. He employed a particular syringe with which to make the injections. The subsequent management of the case was as important as the manner in which the operation was done. The strengthening of the walls of the canal was a slow process, and not to wear a support, at least for some time after the operation, was only to invite a return of the hernia. On the other hand, too firm pressure was to be avoided as tending to weaken the tissues which it was desired to strengthen. The patient should be confined a week or ten days, and longer in extreme cases. He had usually employed during this time the bandage devised by Heaton. Last March he had called attention to a modification of Heaton's method which he believed to be important. It consisted in making repeated injections of a small quantity of the fluid when the patient had to continue at his business, and causing him to wear a truss in the mean time. His conclusions from seven years' experience with Heaton's method, during which time he had employed it in over a hundred cases, were: 1. That it was free from danger. 2. That over forty-five per cent. of all cases could be cured by it, and in select cases fifty to seventy-five per cent. 3. That many extreme cases uncontrollable by means of a truss could be brought under control by the operation. 4. That it was followed by improvement in almost every instance. 5. That children not cured by mechanical means could in almost every instance be cured by Heaton's operation.

Dr. R. F. Weir said that the last time he looked over his records he had performed Heaton's operation seventy or eighty times, and the proportion of cures was between one third and one half—nearer one third than one half. At first he had made some of the errors in operating mentioned by Dr. De Garmo; in one instance he had inserted the needle so far as to inject some of the fluid into the abdominal cavity and set up inflammation. The patient died some months later from another cause, and at the autopsy there was evidence of his having injected the fluid into the omentum. He employed Heaton's bandage sometimes, but he preferred superimposed strips of adhesive plaster. Where the hernia was large, he thought the open method was the better. In general, his experience confirmed the views of the author.

A Clinical Study of Neuralgias in New York.—Dr. C. L. Dana read a paper with this title, including a special study of reflex neuralgias. The subdivisions of his paper were two: 1. Had the neuralgias in New York the same physiognomy as those in Europe? 2. The reflex origin of neuralgias and neuralgic pains. True idiopathic neuralgia was a rare disease, not constituting over two or three per cent. of the various nervous disorders. Sympathetic neuralgia was extremely frequent. The neuralgias in New York which formed the basis of his studies occurred in 250 of his own patients and in 253 seen by other physicians in private or dispensary practice. Trigeminal neuralgia was present in 43 per cent., sciatica in 23, intercostal in 13, cervico-occipital in 4·5, lumbo-abdominal in 2·5, and articular in 2 per cent. One third of all the cases occurred before the twenty-fifth year, and two thirds before the thirty-fifth year; the ratio of males to females was three to five; the greatest number of cases occurred in the winter, the smallest in spring. The fact that the greater proportion of neuralgias in this country occurred in early life he regarded as a good sign, showing a lesser number of the degenerative and violent types.

As to neuralgia of special nerves, the branches of the fifth pair were affected the most frequently; out of a hundred cases, the supra-orbital was affected in 33 per cent., including migraine in 31 per cent., mixed forms in 17 per cent., infra-maxillary in 5 per cent., tic douloureux in 5 per cent., and infra-orbital in 3 per cent. In these cases about two out of three of the patients were females. There was an increase of trigeminal neuralgias between the ages of thirty-five and forty-five. In all neuralgias the left side was affected in about three out of five cases. Most cases of migraine and supra-orbital neuralgia were worse in the morning. As to causes, child-bearing, anæmia, and exposure were common. The nervous temperament was often present. The cases of migraine in which the face was flushed were rare; in nearly all cases it was a family disease, alternating at times with other neuroses; almost all responded well to treatment. He had not been able to convince himself of any connection between neuralgia and nasal or pharyngeal irritation. One case showed a relation to trouble with the eye. He did not regard migraine as due to an affection of the vaso-motor system; it belonged to the trigeminal neuralgias.

Much had been said about the reflex origin of intercostal neuralgias, but in his experience only a small proportion of the cases were of reflex origin. Probably one half the pains in the left side were myalgic. Neuralgic, myalgic, and neuro-myalgic varieties should be recognized in the treatment. Reflex influences in the production of neuralgias had probably become exaggerated in the minds of physicians, but they were of sufficient importance to deserve further study. A large part of the paper was devoted to a consideration of reflex neuralgias, and the author said that, according to numerous reports of cases, almost any surgical operation about the head would cure ninety per cent. of patients with migraine. He thought we might speak of a pseudo-angina pectoris of gastric origin. The stomach and intestines were the most frequent causes of reflex pains; second, he thought, was the uterus. In his conclusions he said that reflex pains were pains reflected from a lower to a higher level; they occurred, as a rule, when the irritation was severe, above the part where the irritation existed. Reflex pains originating in one cerebro-spinal nerve were referred to other cerebro-spinal nerves, and those originating in visceral nerves were reflected to the cerebro-spinal nerves—rarely the reverse. Reflex pains were unilateral when the cause was unilateral, and were felt on the same side. There were occasional exceptions to this rule. Remote reflex pains were produced only when the irritation was slight. Diffuse irradiation of the pains meant an impaired state of the nervous system. Reflex pains of visceral origin were carried by the cerebro-spinal nerves to the cord and thence to the brain, and not by way of the pneumogastric. He did not believe the pneumogastric to be a sensitive nerve of the viscera.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of January 4, 1887.

The President, Dr. C. L. Dana, in the Chair.

Note on Aphasia with reference to Loss of Nouns.—Dr. M. Putnam Jacobi read a paper on that form of aphasia in which the defect is limited to the loss of nouns. Seventeen cases, out of a total of one hundred and sixteen analyzed, offered this peculiarity, which had not failed to attract the notice of authors. Several explanations had been offered, none of which seemed to the writer completely satisfactory. Anatomical data were not at present sufficient to throw much light on the matter further than to demonstrate that the symptom was probably always associated with diffuse, and not with focal, lesions. These lesions could not fail to lie on the sensory side of the speech mechanism, and for reasons detailed at length in the paper must especially involve the paths between the auditory and visual centers, through which the auditory impression or sign of the object became habitually associated with the visual impressions. The writer maintained that the act of speech always involved an entire proposition, framed in the supra-sensory concept centers, probably the superadded convolutions of Broadbent. This proposition constituted a verbal conglomerate, a unity to the mind expressing it, whatever the number of separate parts into which it might be broken up. Such actual verbal conglomerates remained in many primitive languages, such as those of the Greenlanders and North American Indians, where entire sentences were often inflected like a single noun or verb. In our languages the conglomerate or proposition to be expressed was composed of the reminiscences of auditory signs which had become fused with similar reminiscences of visual impressions of things and their relations. If the visuo-auditory paths were interrupted, the signs or names of things would be dislocated from their habitual association with the other characters of such things; while the visual impressions themselves remained, and entered directly into the verbal conglomerate. All other parts of speech than nouns, expressing complete intellectual relations, and although remotely connected with impressions registered in the visual center, were immediately associated only with the processes and registrations of the suprasensory or intellectual centers. While these were intact, therefore, and unless focal lesions had altogether obliterated the memory of language, the speech of relations would be remembered and revived in expression. The objects which were involved in the relations of the conglomerate proposition would no longer be revived in consciousness by their names, but by means of their visual impressions only. These could be expressed by gestures, mimicry, or periphrases, and the loss of the auditory sign thus compensated for.

Peripheral Neuritis and the Painful Paralyses of Early Life.—Dr. H. D. Chapin read a paper with this title, in which he said there had been great scarcity of autopsies in comparison to the frequency of paralyses in children. For that reason a very careful clinical study was necessary, interpreted by our later knowledge of anatomy and physiology of the central and peripheral nerves. The writer had met with an atrophic form of paralysis differing in its inception, development, and result from the spinal paralyses with which he was familiar. Most of the autopsies had been made many years after the paralysis, when death had taken place from some other cause. As there had been but few autopsies in proportion to the number and variety of cases of paralysis, there seemed rather a slender basis for the theory of an exclusive spinal paralysis of children. Laborde's case was mentioned, where a tabetic neuritis had existed with sclerosis of the antero-lateral horns, while the ganglion cells had been found normal. Robin's case was cited, where no lesion of the cord had been discovered. Such a case would show that paralysis was not necessarily always spinal. Barwell's theory was incidentally mentioned. He had maintained that infantile paralysis was purely peripheral, involving the ultimate fibrillæ of the nerves among the muscular elements. Subsequently Leyden had advanced a more rational explanation—that in atrophic paralysis there might be neuritis with spinal cord lesion, and that, instead of such forms of paralysis always originating in the spinal cord, they might have their beginning in any part of the motor apparatus, then spreading to other parts, or remaining limited to the part first affected. Leyden maintained that where complete recovery took place the morbid processes always remained peripheric. Leyden's theory was accepted by the author of the paper as affording a satisfactory explanation for certain cases that he had observed clinically. The histories of three cases were given in which paralysis had been gradual at the onset, and attended by great and persistent pain. Pain had been one of the most marked symptoms, and principally in the extremities—legs and feet. Most of these cases had lasted several months, and then, to the surprise of the writer, had slowly ended in recovery. Atrophy had been present. One of the patients had appeared highly rheumatic. In the two others the cause had been uncertain. Malarial poisoning appeared to be able to produce a more or less severe form of multiple neuritis resulting in paralysis. The history of a mild case was given which had ended in recovery under the use of quinine.

The histories of several cases were related in which children with malarial fever had been seized with painful paralysis, lasting in one case over four months, followed by recovery. A possible explanation of the pain was that it was due to the marked general congestion of the gray matter of the spinal cord. The author stated that in his cases, and others like them, there had been no other symptoms showing irritation in the deeper parts of the cord. The general congestion or myelitis should cause bladder symptoms, bed-sores, and other disturbances. Histories of two cases of lead paralysis in young children seen by the author were given. The lesions were regarded as largely peripheric. Cold usually attacked by preference the peripheric system of nerves. The loss of power sometimes following rheumatism was also probably of this nature. Any morbid blood condition appeared able to produce a peripheral paralysis in early life, particularly the acute infectious diseases, especially diphtheria. The lesion in diphtheria was now known to be largely peripheric.

The object of the paper was suggestive, not dogmatic. The author had gladly availed himself of recent studies in peripheral neuritis tending to throw light upon some of the paralyses of children which had caused much perplexity. The great differences in the clinical behavior of paralyses in early life, in duration and curability, must admit of different anatomical and pathological explanations.

Dr. M. Allen Starr did not know of any recorded case in a patient under twenty-four years of age in which a lesion of a peripheral nerve had been found at autopsy which would account for the paralysis, and, while there was great probability in the statements made by the author, they yet lacked confirmation by autopsy. The points had been brought out very well with regard to the distinctions between peripheral neuritis and anterior polio-myelitis, but he would take exception to what had been said regarding the rapidity of the onset. There were many cases of acute onset of peripheral neuritis, the patient having fever and chill, and the limbs within twenty-four hours becoming entirely immovable.

Dr. Rudisch said that he had been the first to observe, so early as eight or nine years ago, a form of polio-neuritis leading to paralysis and atrophy, following affections of the joint, often so-called rheumatic affections. We now saw often enough an affection of one or more joints, with inflammation, followed after a while by paralysis, usually curable.

Dr. Fisher said a girl, thirteen or fourteen years of age, had been brought to the dispensary with the history that one morning, after having taken cold, she had waked with paralysis of the upper and lower extremities. At that time she had had only paralysis in one leg, which he had supposed, without thought of neuritis, to be ordinary polio-myelitis. Rapid improvement had taken place, and she had recovered within six weeks, and the minister who brought her had reported the case as one that had been cured by faith. Dr. Fisher was unable to say whether the case was an affection of the anterior cornua, or a multiple neuritis.

Dr. Sachs thought we should not be influenced too much by the present fashion, and call all or most of the cases formerly regarded as polio-myelitis cases of multiple neuritis. Referring to one of the cases the histories of which had been related in the paper, and the symptom of pain, he said too much stress should not be laid upon it unless it was severe, persistent, and located distinctly along the tract of a peripheral nerve.

Dr. Leszynsky regarded pain as a prominent symptom of neuritis, but absent in the majority or all of the cases of simple polio-myelitis. The pains present in some of Dr. Chapin's patients reminded him of the pain from straining of the tendons of the extensor muscles which had been for some time in a paralyzed state.

Dr. Chapin thought that a neuritis would occasionally explain cases which could not be accounted for on the supposition of a spinal lesion, and he would rather say Halt! to the universal spinal cause of disease. With regard to pain, it was difficult to locate it along a particular nerve in children, but in his cases it had been acute and persistent, and not due simply to stretching of tendons.

ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL.

Third Meeting.

The President, Dr. T. A. Emmet, in the Chair.

Hydrastis Canadensis in Uterine Hæmorrhage.—Dr. R. W. Wilcox, of New York, read a paper on this subject. [See page 199.]

The President thought that it would be interesting to know the exact way by which certain drugs which produced contraction of the uterus exerted their effect. In the case of ergot, it was known that its most decided effect was upon tissues which were innervated by the sympathetic. Was it to be supposed that all uterine hæmostatics acted through the sympathetic? It must be remembered that a hæmorrhage from the uterus did not necessarily imply a primary disorder of the uterus—for example, it might be excited by a pelvic cellulitis acting through the sympathetic upon erectile tissue.

Dr. E. C. Dudley wished to inquire whether the drug under discussion had acted favorably in all the cases in which the reader of the paper had used it. If it was of such great value as an astringent therapeutic agent, it should have a much wider range of application than for uterine hæmorrhage alone, and would be indicated in all instances in which an astringent was called for.

Dr. A. Palmer Dudley differed entirely with the reader in the sweeping manner in which he had opposed vaginal examinations among unmarried women. It was possible that abuses had been perpetrated in that particular, and suitable or even extraordinary precautions should be used in making such examinations; but in such a matter as uterine hæmorrhage, for example, it would often be difficult or impossible to direct treatment intelligently without knowing something of the conditions which had caused it.

Dr. J. R. Goffe said, in connection with the operation of sounding the uterus, which might be required in the course of a search for the cause of uterine hæmorrhage, that it should not be forgotten that no fixed depth of the organ could be taken as a guide. Not only did the depth vary considerably, especially in multiparæ, but by the use of a greater or less degree of force almost any depth that was desired could be obtained.

Dr. Van Ness said that he had frequently used *Hydrastis canadensis* for uterine hæmorrhage, but he had failed to receive so favorable an impression from its use as the author had. In many instances hæmorrhage was not arrested by it, and it seemed to him that the conclusions of the reader were entirely too sweeping.

Dr. Wilcox, in conclusion, remarked that the physiological experiments with the drug showed that it acted by a central influence through the vaso-motor nerves. Its use was accompanied by a rise of pressure in the arteries in general. The drug was not an infallible one; he had known it to fail sometimes, but its usual effect was good. He desired to repeat his objection to the abuse of vaginal examinations in unmarried women. In his opinion such examinations should be made only after a consultation with two other physicians, one of whom should be a general practitioner.

As to the objection that the usefulness of the drug seemed to be too general, he had recommended it for but one indication, and as a uterine hæmostatic he thought it was the best we had.

Vaginal Cysts, with Report of a Case.—A paper with this title, by Dr. G. W. Johnston, of Washington, was, in the absence of the author, read by title.

(*To be continued.*)

Book Notices.

A Text-book of Pathological Anatomy and Pathogenesis. By Ernst Ziegler, Professor of Pathological Anatomy in the University of Tübingen. Translated and Edited for English Students by Donald Macalister, M. A., M. D., Fellow of the Royal College of Physicians, etc. Part II. Special Pathological Anatomy. Sections ix–xii. London and New York: Macmillan & Co., 1886. Pp. xii–3 to 391. [Price, $3.50.]

When Dr. Macalister's translations of Ziegler's writings first made their appearance, the verdict rendered by students in pathological anatomy and general medicine was uniformly that he had done them a very great service. The conciseness and comprehensiveness of the original work made it exceedingly useful.

The delay to which the reader of English only has been put in the publication of this volume has been annoying, to be sure, but this will be more than compensated for by the fact that the translator has had an opportunity to profit considerably by Professor Ziegler's own improvements, and "to bring up to date references to some of the rapidly advancing parts of the subject."

This volume contains Sections IX, X, XI, and XII. In Section IX the urinary organs receive attention, including malformations, disorders of the renal circulation, renal deposits, degeneration and necrosis, cysts and hydronephrosis, the varieties of nephritis, pyelitis, and pyelonephritis, and the morbid changes affecting the bladder, the urethra, and the supra-renal capsules.

Section X includes the morbid changes affecting all the respiratory organs, beginning with the nasal cavities and ending with the thymus gland. Here we find the statement that true croupous pneumonia is, probably, due to bacterial infection. This is a guarded acceptance of the parasitic origin of the disease.

Sections XI and XII are especially interesting at the present time, when there seems to be developing what may be called the epoch of multiple neuritis. The author places himself among those who believe that the axis-cylinder in the peripheral end of a cut nerve degenerates, as well as in the motor fibers, after loss of the ganglion-cells in the anterior horns of the cord. He also adopts the view that in regeneration the new nerve-fibers are derived from the old nerves of the *central end*, and rejects, as contrary to all histogenetic analogy, the hypothesis that nerve-fibers may grow from granulation cells, or from the connective-tissue cells of the perineurium, endoneurium, or epineurium.

The work is fully illustrated, and the illustrations are remarkably faithful representations of microscopic appearances. Evidently two ideas have been kept in view in their production: (1) to illustrate morbid changes as they exist and can be demonstrated with the microscope; and (2) not to make them merely beautiful, and thus hope to make them attractive.

The printing is excellent and upon fine paper, and the book is within the reach of the student, without his being compelled to buy a library.

Bright's Disease and Allied Affections of the Kidneys. By CHARLES W. PURDY, M. D. (Queen's University), Professor of Genito-urinary and Renal Diseases in the Chicago Polyclinic, etc. With New and Original Illustrations. Philadelphia: Lea Brothers & Co., 1886. Pp. xi–17 to 295. [Price, $2.]

SUCH a flood of books upon renal troubles has of late appeared, that one is inclined to look with disfavor upon each addition, as only tending to increase the labor, without adding to the information, of the already overburdened reader who is desirous of being abreast of the times.

This feeling, however, need not apply to Dr. Purdy's work, which, though not bringing anything distinctively new, as far as we have been able to discover, abounds in so much good sense, and presents the subject so clearly and logically, that, particularly for a beginner, it will prove especially useful. Paradoxical as it may at first seem, a great deal that contributes to this clearness is due to the fact that all attempts at classification are abandoned, and each different form of disease is treated of separately. The advantage of this will be apparent to all who have busied themselves with renal pathology, for it can hardly be doubted that the forced attempts at classification indulged in by most authors have tended rather to obscure than to elucidate the subject. Students are too often obliged to learn the most diverse classifications—since each writer and teacher invents some modification of his own—only to be compelled to unlearn them again in the school of experience.

Dr. Purdy has limited his work strictly to organic renal disease; all so-called "urinary" troubles, and even the surgical affections of the kidneys, being excluded. The first two chapters are devoted to the consideration of general symptoms and to general treatment, and we are glad to see so much stress laid upon the hygienic management of patients, with regard both to the prevention of further trouble and to extension of that already existing. Altogether, it may be said that the lines of treatment laid down are marked by practical good sense united with a just consideration of physiological conditions.

While there is no attempt at erudition, the author has understood how to happily summarize, in few words, the principal views of the prominent writers on the subject, and to so combine them that the reader at once obtains a clear view of the subject-matter before him.

There are numerous good cuts of microscopical sections, drawn by Dr. Frank Cary, illustrating the chief pathological lesions, but we notice with regret that in no case is the magnifying power given.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

J. F. BERGMANN, Wiesbaden.—T. Rumpf, "Die syphilit. Erkrankungen d. Nervensystems." (15*M.*) —— H. Willbrand, "Die Seelenblindheit als Herderscheinung u. ihre Beziehungen zur homonymen Hemianopsie, zur Alexie u. Agraphie." (4*M.* 60.)

W. BRAUMÜLLER, Vienna.—J. Bayer, "Lehrbuch d. Veterinär-Chirurgie." (10*M.*) —— E. Brücke, "Vorlesungen über Physiologie." 4th ed., 2d vol. (10*M.*) —— L. Schrötter, "Vorlesungen über d. Krankheiten des Kehlkopfes, der Luftröhre, der Nase, u. des Rachens." 1st Lfg. (1*M.* 40.) —— J. Struska, "Anleitung zu den anatomischen Präparierübungen f. Studirende d. Thierheilkunde." (2*M.*)

M. DRIESNER, Berlin.—J. Münz, "Ueber die jüdischen Aerzte im Mittelalter." (1*M.* 50.)

W. ENGELMANN, Leipsic.—A. de Bary, "Vorlesungen über Bacterien." 2d ed. (3*M.*)

F. ENKE, Stuttgart.—F. Friedberger u. E. Fröhner, "Lehrbuch d. speciellen Pathologie u. Therapie d. Hausthiere." 8th Lfg. (3*M.*)

G. FOCK, Leipsic.—L. Fischer, "Ueber die Behandlungsmethoden d. Prostatitis mit bes. Berücksichtigung d. Prostatahypertrophie." (1*M.* 50.) —— L. Peiser, "Die Lebersyphilis." (1*M.* 20.)

E. J. KAROW, Dorpat.—P. Dobbert, "Beiträge zur Innervation des Pylorus." (1*M.* 20.) —— L. Helmsing, "Ueber den Nachweis des Cocains im Thierkörper." (1*M.*) —— E. Heucking, "Ueber die Organisation des Thrombus." (1*M.*) —— T. Hindess, "Ueber Zusammensetzung u. Entstehung der Harnsteine." (1*M.* 50.) —— E. v. Hirschheydt, "Ueber die Wirkung des Krotonöls." (1*M.* 50.) —— C. Martinson, "Ueber die Häufigkeits- u. Abhängigkeitsverhältnisse des Pannus bei Trachom." (1*M.*) —— O. Pötschke, "Die Verwerthung der Gesichtsfeldprüfung f. d. Diagnostik u. Prognostik d. Amblyopie." (2*M.*) —— A. Sohrt, "Pharmacotherapeutische Studien über das Hyoscin." (1*M.* 20.) —— H. Thomson, "Ueber die Beeinflussung d. peripheren Gefässe durch pharmacologische Agentien." (1*M.* 50.) —— N. Tufanow, "Ueber Cyclamin." (1*M.* 50.) —— J. Türstig, "Mittheilung über die Entwickelung der primitiven Aorten nach Untersuchungen an Hühnerembryonen." (2*M.*)

E. S. MITTLER & SOHN, Berlin.—E. Leyden, "Ueber Bronchialasthma." (0*M.* 80.)

G. REIMER, Berlin.—E. Korczynski u. W. Jaworski, "Klinische Befunde bei Ulcus u. Carcinoma ventriculi, sowie bei Magenblutungen." (0*M.* 80.) —— H. Lähr, "Gedenktage d. Psychiatrie u. ihrer Hülfsdisciplinen in allen Ländern." (2*M.*)

E. ROTH, Giessen.—F. A. Kehrer, "Beiträge zur klinischen u. experimentellen Geburtskunde u. Gynäkologie." 2d vol., 3d part. (4*M.*)

TÖPLITZ & DEUTICKE, Vienna.—F. Dimmer, "Der Augenspiegel u. die ophthalmoskopische Diagnostik." (5*M.*) —— J. Horner, "Praktische Geburtshülfe." (6*M.*)

BOOKS AND PAMPHLETS RECEIVED.

Ninth Biennial Report of the State Board of Health of California, for the Fiscal Years from June 30, 1884, to June 30, 1886.

The Source of the Mississippi, comprising: I. Letter from Messrs. Ivison, Blakeman, Taylor, and Company. II. Report of Hopewell Clarke, Chief of the I. B. T. & Co. Expedition to the Head-waters of the Mississippi, October, 1886. [Reprinted from "Science."]

The Medals, Jetons, and Tokens illustrative of Obstetrics and Gynæcology. By Horatio R. Storer, A. M., M. D., Newport, R. I. [Reprinted from the "New England Medical Monthly."]

Eighteenth Annual Report of the Trustees of the Willard Asylum for the Insane. For the Year 1886.

Twenty-third Annual Report of the New York Society for the Relief of the Ruptured and Crippled. For the Year ending September 30, 1886.

Massage as a Mode of Treatment. By William Murrell, M. D., F. R. C. P., Lecturer on Pharmacology and Therapeutics at the Westminster Hospital, etc. Second Edition. London: H. K. Lewis, 1887. Pp. vi to 100.

Reports on the Progress of Medicine.

CUTANEOUS AND VENEREAL DISEASES.

By GEORGE THOMAS JACKSON, M. D.

Arsenic in Skin Diseases.—The discussion of the value of arsenic in skin diseases is continued in the December number of the "Jour. of Cutan. and Ven. Dis." for 1886. The majority of the dermatologists in this city, as represented at a late meeting of the New York Dermatological Society, are in favor of arsenic in certain cases. Taylor has found it of benefit in acne simplex and indurata; in pemphigus, lichen planus, dermatitis herpetiformis, and chronic urticaria; in gouty and neurotic forms of eczema, as well as in erythematous and squamous eczema, and in some cases of psoriasis; in scaling syphilides, and in some cases of malignant precocious syphilis, and of the ulcerative forms. He uses Fowler's solution, arsenious acid, and the arsenate of sodium. Piffard considers arsenic as of great value; the more useful the more extended the eruption. He rarely gives a medium dose, preferring, in subacute and chronic cases, to administer a large dose until the physiological effect is produced, and then to continue it at the point of toleration, while in acute cases he gives the drug in small doses—say, one tenth or one twentieth of that ordinarily given. Used in this way, he has found it valuable in subacute and acute eczema, in psoriasis of long standing, in pemphigus, in some forms of syphilis, and in acne. Sherwell regards arsenic as the most powerful stimulant and therapeutic agent we possess for treating diseases of the epidermis and skin diseases of neurotic or malarial nature. Alexander has found arsenic useful in chronic eczema, psoriasis, and acne. Keyes has great confidence in arsenic (see abstract of his paper in the "N. Y. Med. Jour." for Nov. 6, 1886, p. 530). Morrow has lost faith in the efficacy of arsenic in psoriasis, and believes it to be of no great value in eczema; he has seen it do good in pemphigus and dermatitis herpetiformis, and in cases with a malarial history or of neurotic origin; also in some cases of erythema, acne, and rosacea. Allen has seen arsenic produce temporary benefit in psoriasis. He has never seen much benefit from its use in acne; but in lichen ruber he has seen it do good.

A tabulated statement of the replies received from forty physicians shows that arsenic was used quite generally for skin diseases by eighteen of them, while eight did not use it to any great extent. Twenty-one of them had seen more or less severe symptoms of poisoning from its use. Thirty-three of them made use of Fowler's solution exclusively.

The Therapeutical Uses of Iodol.—This new substitute for iodoform was first used by Mazzoni in 1885, having been discovered by Silber and Ciammician in Rome. Pick ("Vrtljschr. f. Derm. u. Syph.," 1886, Hft. 4, p. 583) has made extensive use of this drug, and values it highly as a substitute for iodoform, over which it has the great advantage of being nearly ordorless. It occurs as an almost odorless and tasteless skin-colored powder, which is slightly soluble in water, 1 to 5,000; soluble in absolute alcohol in the proportion of 1 to 3, but thrown down by the addition of water to the alcohol. Ether dissolves less than its weight of iodol; chloroform takes up fully 50 per cent., and olive-oil, in a water-bath, takes up 15 per cent. Pick uses it in five forms: (1) a very fine powder; (2) iodol gauze; (3) iodol spray, 10 to 20 per cent. dissolved in ether; (4) iodol collodion, made by adding one part of iodol to five parts of ether and ten parts of collodion; and (5) iodol ointment in 5 to 10 per cent. strength.

He has used the drug with very satisfactory results in gonorrhœa of the female, in chancre, condyloma, gummatous syphilides, and suppurative and subacute adenitis, besides other non-venereal ulcerative diseases, such as chronic ulcers, scrofulous abscesses, and lupus after scarification. In gonorrhœa, after washing the vagina with a bichloride-of-mercury solution, the part is to be sprayed with the iodol spray, and tamponed with the iodol gauze. The gonococci disappear in a few days. The chancres were carefully cleaned, then sprayed with the iodol, and then either powdered with it or covered with the gauze. The condylomata were sprayed. In syphilitic gummatous lesions the iodol was given by the mouth in amounts not exceeding fifteen grains during the day. As a rule, four to eight grains were given morning and evening for two days, say on Monday and Tuesday; then no more was given until the following Monday, when the drug was administered again for two days. Locally, iodol was used in spray or in a lanolin ointment where the skin was intact over the gumma, and in powder where there was ulceration. In suppurative buboes, after they were opened, the abscess cavity was washed out with bichloride solution and filled with iodol powder and gauze, and a bandage placed over all. The bandage was removed in eight days, and the abscess healed in from twelve to twenty-two days. Symptoms of poisoning were never observed in any of the cases—one hundred and thirty-eight in all.

Hamamelis in Diseases of the Skin.—Dr. Shoemaker ("Med. Bulletin," December, 1886, p. 380) has found witch-hazel of service in a number of skin affections. In eczema, especially in the acute and subacute forms, given internally in doses of from one to thirty minims of the fluid extract every two or three hours, it often relieves the congestion of the skin and hastens recovery. In infantile eczema, the crusta lactea, given in doses of from one half to five drops in syrup or milk every two or three hours, it is of great benefit. Sometimes the local application of the fluid extract diluted, or the tincture, two to eight drachms to five ounces of water, kept constantly applied to the inflamed part, will afford great relief. In other cases an ointment, one half to two or more drachms to the ounce, will act better. For erysipelas a lotion is commended composed of one part of the tincture of hamamelis, one part of laudanum, and six parts of water. In acne and rosacea it has a decidedly beneficial effect, employed both internally and locally. In obstinate cases as much as three or four drachms of the fluid extract may be given daily internally, and the tincture may be used externally up to its full strength. In seborrhœa it is used either with or without one to ten grains of corrosive sublimate to four ounces of water or lard. In hyperidrosis and bromidrosis it is combined with ten to thirty grains of boric acid. In all these it renders great service, and often effects a cure. Administered internally, it is a useful adjuvant in the treatment of psoriasis, specially in cases attended with severe inflammatory action and pruritus, and in purpura. In ulcers, specially of the varicose variety, cures will frequently be effected by full doses of the fluid extract and the local use of the tincture.

Electrolysis is recommended by Dr. Hardaway ("Maryland Med. Jour.," Dec. 25, 1886, p. 154) in the treatment of lupus vulgaris and lupus erythematosus, and in superficial cutaneous epitheliomata, fibromata, and the like. In operating on these, he uses a sewing-needle of a size adapted to the purpose in view.

Abortive Treatment of Phlegmons by Resorcin Inoculations.—Dr. L. Weiss reports ("Med. Record," Nov. 27, 1886, p. 597) four cases of phlegmon of the fingers and one case of the same disease of the toe which he treated with brilliant success by making multiple parallel shallow incisions, similar to those for vaccination, over the inflamed part and then dressing it with a ten- to thirty-per-cent. resorcin-lanolin ointment. The pain was relieved in every case within six to twelve hours, the constitutional disturbance disappeared, and recovery took place promptly. The incisions allowed the resorcin to be readily absorbed. The dressings should be renewed twice a day, and the ointment used freely. Dr. Weiss anoints the inflamed finger with the ointment, then wraps a piece of lint about it, and saturates that with the ointment, then applies some gutta-percha tissue, a layer of cotton, and a moist gauze bandage. This treatment has been successful even when lymphangeitis and lymphadenitis had commenced.

Erythema Nodosum treated by Sulphurous Acid.—Dr. Veeder ("Med. Press of West. N. Y.," Dec., 1886, p. 681) has produced prompt relief in this painful affection by the local use of equal parts of sulphurous acid and water, applied hot on cloths, the latter to be changed when they have become cold.

Treatment of the Erythematous Condition of the Hands which precedes Chilblain.—As soon as the weather becomes cold Besnier has the sufferers from this malady employ the following plan of treatment ("Jour. de méd. et de chir.," Sept., 1886, p. 396): The feet or hands are to be bathed with a decoction of walnut leaves and then dried, and spirits of camphor applied. Then the parts are to be covered with a powder of 90 parts of starch and 10 parts of salicylate of bismuth. If there are much discomfort and pain, before applying this powder the hands are to be bathed with a lotion of

Glycerin, }
Aquæ rosæ, } .... āā 50·00 parts.
Tannin.......... .... ·10 "
M.

Inflammation of the Hair Follicles within the Nares.—For this painful, annoying, and sometimes very obstinate disease, which is often called eczema, Dr. Hardaway, of St. Louis, has found the best treatment to be the administration of cod-liver oil with hypophosphites, and the local application of glycerin to which is added two drachms of Squire's glycerole of the subacetate of lead ("Jour. of Cut. and Ven. Dis.," Dec., 1886, p. 360). Sometimes he commences the treatment of a case by giving one-tenth-of-a-grain doses every third hour of the sulphide of calcium. The glycerin is to be applied with a camel's-hair brush both to the inside and to the outside of the nose; the parts are to be fomented several times a day, the hairs are to be plucked from the inflamed follicles, and when suppuration occurs the pustules are to be lanced. When the pain and tension have subsided, the following ointment is to be used:

℞ Squire's glycerol. plumb. subacetat............. ʒ ss.;
Glycerin.................................... ʒ jss.;
Ung. aq. rosæ....... .... ℥ j;
Ceræ albæ.................................. q. s.
M.

The formula for Squire's glycerole is as follows: Acetate of lead, 5 parts; litharge, 3½ parts; glycerin, 20 parts, by weight. Mix and expose to a temperature of 350° F., and filter through a hot-water funnel.

Chalk Ointment in Erysipelas.—Duckworth ("Practitioner," Jan., 1887) recommends in the treatment of erysipelas an ointment made by mixing equal parts of prepared or precipitated chalk and melted lard, either with or without half a drachm of carbolic acid to the ounce. It is to be applied with the finger and smeared on thickly, a mask of plain lint or boric lint being laid over it. It is cleanly, unirritating, cooling, and soothing.

Treatment of Ichthyosis.—Besnier ("Jour. de méd. et de chir.," Sept., 1886, p. 394) recommends for ichthyosis baths of two to four hours' duration, followed by anointing with equal parts of glycerin and rose-water; or with β naphthol, resorcin, or precipitated sulphur in vaseline in the strength of five per cent. These baths and anointings are to be repeated every day for a week, and then once a week continuously. In the course of several years the condition is often greatly improved.

Lichen Ruber Moniliformis is the name applied by Kaposi ("Vierteljschr. f. Derm. und Syph.," 1886, Hft. 4, p. 571) to a unique case of lichen ruber planus in which the typical lesions of the disease became transformed into keloidal nodes arranged in lines, the nodes being as large, in some places, as cherries, with their bases confluent and their upper parts separated by furrows. With the keloidal stripes occurred typical lichen planus papules and pigmented stains from their involution. The patient greatly improved under hypodermatic injections of arsenate of sodium, but had to leave the hospital before the cure was completed. An admirable chromo-lithograph accompanies the article, together with a number of drawings of the histology of the affection.

Lupus Erythematosus.—Dr. Morison, of Baltimore ("Viertljschr. f. Derm. und Syph.," 1886, Heft iv, p. 619), reports a case of lupus erythematosus which occurred upon the face and upon the vermilion border of the lower lip. The microscopical examination showed that the disease was an inflammatory process taking place about both the sebaceous and the sweat glands, and in no wise related histologically to lupus vulgaris. It is proposed to discard the name of lupus erythematosus and to call the disease dermatitis glandularis erythematosa.

Lupus and Cancer.—From the study of a personal case and of cases published by other observers, Winternitz ("Viertljschr. f. Derm. u. Syph.," 1886, Hft. 4, Part II, p. 767) has found that in cases of lupus of many years' standing epithelioma may develop; and this is particularly prone to occur after the person has passed his fortieth year. On the other hand, no case of the development of carcinoma out of lupus elements has ever been reported. The epitheliomas which develop in connection with lupus should be removed by the knife, on account of the rapidity with which they grow, and not attacked with caustics.

A New Apparatus for Urethral Injections.—Dr. Finger ("Allgemeine med. Zeit.," Nov. 9, 1886) has had made an apparatus which answers the double purpose of a fountain syringe and a syringe working by means of a piston. It consists of a cylinder with a capacity of from 300 c. c. to 500 c. c. which is suspended against the wall by means of a hook. From the lower pointed end comes off a rubber pipe with a pear-shaped nozzle at its farther extremity which is furnished with a cock. The upper end of the cylinder is closed by a simple cover-like cap which does not screw on, and this is bored through for the passage of the piston-rod. The syringe is filled by drawing up the fluid through the tube by the action of the piston. One filling is sufficient for many injections. In acute cases of gonorrhœa the cover of the cylinder with the piston is removed, and the apparatus is used as a fountain syringe. As soon as the urethra is well distended by the fluid and the patient feels some pain he turns the cock, withdraws the nozzle-tip, and, pressing the mouth of the urethra together, causes the injected fluid to be retained for one or two minutes. In gonorrhœa of some standing, when the acute symptoms have passed, the cover and piston are replaced and the injection is forced deeper in the urethra.

Stigmata Maidis in the Acute Stage of Gonorrhœa.—In the "Therapeutic Gazette" for December, 1886, Dr. Stuver extols the merits of the fluid extract of corn silk in the acute stage of gonorrhœa. He has had a large number of patients who have made speedy recoveries under its use. It is noticeable that he gives it combined with the acetate of potassium, and thus impairs the value of his observations.

Venereal Diseases of the Rectum and Anus.—Dr. Kelsey has done well in presenting to the profession a summary of what is known of this often neglected group of diseases ("Med. Rec.," Dec. 4, 1886, p. 623). He gives us also the result of his own experience in the study and treatment of these disorders. The article is too long to be more than briefly noticed here. Our author says that masturbation by way of the rectum, or sodomy, may be practiced for years without leaving a trace upon the rectum or anus; only under extreme conditions will such practices cause relaxation of the sphincter, disappearance of the radiating folds, an infundibuliform shape of the anus, fissures, lacerations, abrasions, and other marks of violence, and incontinence. But these symptoms may all be produced in other ways. Proctitis due to sodomy may be simple or gonorrhœal; in the former there will be heat and weight in the part, a frequent desire to go to stool, pain often extending to the bladder, sacrum, and loins, vesical tenesmus, and a discharge of sero-purulent matter, with the passages and between them. There may be some fever and loss of appetite, and examination of the rectum will reveal local rise of temperature and a congested mucous membrane. In the gonorrhœal form the symptoms will be more acute and severe, and the discharge very abundant and greenish. The mucous membrane is covered with a thick discharge, and bleeds easily when touched, and the follicles are enlarged and discharge pus. Treatment: Rest in bed, hot sitz-baths, anodyne injections of warm starch-water and opium, and perhaps one of a solution of nitrate of silver, 1 to 2 grs. to ℥ j. Milk or fluid diet; saline laxatives. *Chancroids* at the anus, though they may be due to unnatural intercourse, arise more frequently, in women at least, from discharges from vulvar chancroids, or from the male organ in coition. They do not tend to spread into the rectum or to involve the surface of the gut above the sphincter, and when they do they are of limited extent and well circumscribed. They tend to spontaneous cure, and seldom leave any trace when healed. It is possible for a phagedenic chancroid to give rise to stricture of the rectum, but the accident is rare. The appearances of the chancroid are the same on the anus as elsewhere. Treatment: Gentle laxatives, local application of nitrate of silver, five grains to the ounce, covered with soft lint. If the ulcer has invaded the sphincter, it must be exposed by the speculum and thoroughly cauterized with fuming nitric acid. If the ulcer can not be fully exposed and cauterized, resort should be had to astringent injections, say with nitrate of silver, two grains to the ounce three times a day. Phagedæna is to be attacked with Paquelin's cautery. Chancres of the anus in men are sure signs of pæderasty. They are often mere erosions and resemble mucous patches. They tend to spontaneous healing, but may develop into mucous patches. They have been seen inside of the rectum, but seldom. Mucous patches are common either in the ulcerating or vegetating form, and often closely resemble another variety of non-venereal warts. Only one case of mucous patches within the rectum has been reported. Stricture of the rectum often follows ulceration from tubercular syphilitic deposits. Gummatous deposits have been seen in the rectum, and these may be circumscribed or diffused. [We must refer the reader to the article itself for the differential diagnosis and a full discussion of the subject.]

Clinical Notes on Syphilis.—Dr. B. Farquhar Curtis, of this city, has made a valuable contribution ("Med. Rec.," Dec. 11, 1886, p. 653) to the history of syphilis under this heading. His carefully kept notes of cases at the Out-patient Department of the Chambers Street Hospital show that among dispensary patients three cases of chancroid are met with to one case of chancre; and that in every one hundred cases of venereal ulcers there were two multiple and twenty-three single chancres, thirty-five multiple and forty single chancroids. He found that in twenty-nine out of forty-one cases of chancre the average interval between the appearance of the initial lesion and the first outbreak of general systemic syphilis was nine weeks when no constitutional treatment was given; and that in the remaining twelve cases, in which treatment was begun early, the average interval was twenty-two weeks. In one case induration of the venereal ulcer did not take place till over eight weeks had passed; and in another, nine weeks elapsed. Two patients who had had constitutional syphilis subsequently contracted chancroids, which became indurated and greatly resembled initial lesions. Dr. Curtis thinks this induration in chancroids may explain some of the cases of secondary infection of syphilis.

The Infrequency of Secondary Syphilitic Contagion.—Dr. Arthur, of the U. S. Navy, has made a valuable study of the contagiousness of syphilis by means of its secondary lesions ("Med. Rec.," Dec. 18, 1886, p. 674), based upon the replies of one hundred and eighty-four army and navy surgeons to a circular sent out by him. In a period of ten years, during which some thirty-three thousand men had been under observation, only forty-one cases of secondary infection had been observed. In thirty-eight of these cases oral mucous patches were the supposed contagious lesion, and in them the contagion was by direct inoculation by tattooing in twenty-six cases, by vaccination in one, and by biting in two; twenty-nine in all. These are regarded by Dr. Arthur as of no account as instances of contagion, as the possibility of inoculation admits of no question. Of the remaining twelve cases reported as instances of contagion from secondary lesions, five were supposed to have been acquired from kissing; but here there is a possibility of mediate contagion by means of the finger coming in contact with a vaginal chancre or by the direct contact of the lips with a vulvar chancre, an open wound existing in either case upon the lips of the man, or the woman herself may have had a labial chancre. One case was acquired by a surgeon in a vaginal examination, where there might have been a chancre. In two cases the observations were imperfect. In the four remaining cases, mediate contagion took place in one by means of the mouth-piece of a cornet, in two by means of a pipe, and in one from drinking from a water-faucet. Still, when it is considered that syphilis is very common among soldiers and sailors, and that they are in the habit of using their pipes and drinking-vessels in common, the number of cases of secondary infection is strikingly small. From this study Dr. Arthur concludes that the danger of contagion from the secondary lesions of syphilis is very much overrated, but he does not deny its possibility.

New Inventions, etc.

A MODIFICATION OF SIMS'S SPECULUM.

By Edward B. Dench, M. D.,

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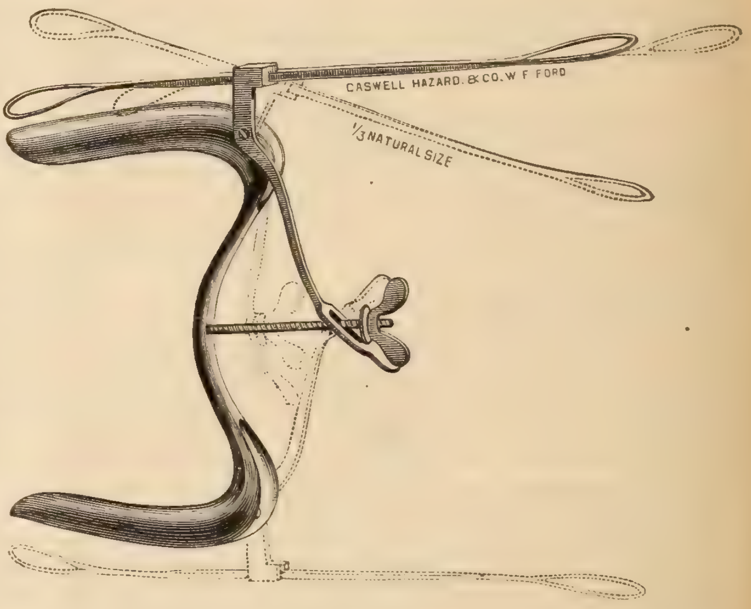
This speculum, which I take pleasure in presenting to the profession, seems to me to possess the advantages of the Sims instrument, at the same time it requires only one person to manipulate it. It consists of a light Sims speculum, to the middle of the back of which is fastened a bar, on which is cut a screw thread.

On the upper surface of each blade, near its junction with the back, is a French pivot, by means of which a lever can be attached to either blade. In the short arm of the lever is cut a groove of the size and shape of a cross-section of the depressor handle. The long arm of the lever is perforated, and fits over the bar attached to the back of the speculum.

In using the instrument, the free blade is grasped in the left hand, the thumb resting on the long arm of the lever attached to the other blade, and the instrument is introduced in the same manner as an ordinary Sims speculum. The depressor is then used to expose the cervix, and, after this has been accomplished, the handle of the depressor is slipped into the groove in the short arm of the lever; the pressure of the anterior and posterior vaginal walls holds the depressor firmly in the groove; the lever is then fixed by a screw on the bar, over which it fits.

To remove the speculum it is only necessary to loosen the screw; the depressor then falls from the groove from its own weight, and it and the speculum are withdrawn separately.

The accompanying cut shows the instrument with the depressor in the groove. The broken lines are used to show the position assumed by the lever and depressor when the instrument is in position; they are also used to show the lever attached to the other blade.



The instrument in my hands has been useful in virtue of the following facts;

1. The depressor is introduced and removed as a separate instrument, not becoming a part of the speculum, until the cervix is thoroughly exposed; this is especially advantageous when the parts are small or sensitive.

2. We have two different sizes of blade, as in the Sims instrument.

3. When the lever is removed, which is only the work of a moment, the instrument becomes an ordinary Sims.

I wish to express my thanks to Mr. W. F. Ford, of Caswell, Hazard, & Co., for the careful manner in which he has executed my ideas.

Miscellany.

Illegitimate Births in Paris.—According to "Progrès médical," there were born in Paris, from Sunday, January 9, 1887, to Saturday, January 15, 1887, three hundred and thirty-seven illegitimate children, of which one hundred and sixty-seven were males and one hundred and seventy females.

The New York Academy of Medicine.—At the meeting of the Section in Ophthalmology and Otology, Monday evening, the 21st inst., Dr. R. W. Amidon will read a paper on "Two Cases of Insufficiency of the Superior Rectus with Distressing Symptoms, permanently relieved by Prisms," and Dr. H. Knapp will read a paper entitled "Extraction of Cataract without Iridectomy, with Presentation of Cases."

At the meeting of the Section in Laryngology and Rhinology, Tuesday, the 22d inst.; Dr. F. H. Bosworth will read a paper on "The Physiological Function of the Nasal Mucous Membrane and its so-called Erectile Tissue."

At the meeting of the Section in Obstetrics and Diseases of Women and Children, Thursday evening, the 24th inst., Dr. Malcolm McLean will read a paper on "Rupture of the Uterus."

At the meeting of the Section in Materia Medica and Therapeutics, Friday evening, the 25th inst., Dr. George D. Hays will read a paper on "The Management of Fæcal Retention."

The Health of Chicago.—According to the Health Department's "Condensed Statement of Mortality" for January, there were 1,261 deaths during the month, including 159 from croup and diphtheria, 5 from diarrhœa, 1 from dysentery, 2 from entero-colitis, 14 from erysipelas, 7 from cerebro-spinal fever, 2 from remittent fever, 23 from scarlet fever, 26 from typhoid fever, 9 from typho-malarial fever, 43 from measles, 5 from pyæmia, 2 from septicæmia, 2 from thrush, 4 from whooping-cough, 1 from chicken-pox, and 1 from hydrophobia.

A New Portuguese Journal.—We have received the first number of the "Revista de Medicina e Cirurgia do Hospital da Misericordia do Porto," dated January 15, 1887. It contains sixteen large double-columned pages, the first article being illustrated with an excellent phototype of a patient who had undergone resection of a great part of the left parietal and the frontal bone. The contents of the number are varied, and adequately representative of the different branches of medicine. The journal is edited by Dr. Arthur Maia Mendes.

The Health of Burlington, Iowa.—According to the report of the Health Officer, Dr. H. A. Leipziger, there were 41 deaths during the month of January, including 2 from diphtheria, 1 from typhoid fever, 6 from pneumonia, and 2 from entero-colitis.

The Health of Boston.—During the week ending February 12th there were reported to the Board of Health 20 cases of diphtheria and 10 deaths; 13 cases of scarlet fever and no deaths; 17 cases of typhoid fever and 2 deaths; and 66 cases of measles and 2 deaths. There were also 27 deaths from consumption, 11 from pneumonia, 14 from heart disease, 11 from bronchitis, and 3 from marasmus. The total number of deaths for the week was 162, being 20 fewer than for the corresponding week last year.

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending February 10th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending January 22, 1887, correspond to an annual death rate of 22·8 in a thousand of aggregate population. The lowest death rate was recorded in Derby, viz., 150, and the highest in Plymouth, viz., 33·8 in a thousand. There were 1,757 deaths registered in London during the week, including 16 from scarlet fever, 13 from diphtheria, 31 from whooping-cough, 14 from enteric fever, and 13 from diarrhœa and dysentery. There were 531 deaths from diseases of the respiratory organs. Different forms of violence caused 59 deaths, and 8 suicides were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending January 22d, in the sixteen principal town districts of Ireland was 29·1 in a thousand of population. The lowest death rate was recorded in Galway, viz., 16·8, and the highest in Lurgan, viz., 51·3.

Dublin.—There were 218 deaths registered in Dublin during the week ending January 22d, including 15 from zymotic diseases. In forty-five instances the cause of death was uncertified, there having been no medical attendant during the last illness.

Scotland.—The death rate in eight principal towns during the week ending January 22d was 23·7 in a thousand of estimated population. The lowest mortality was recorded in Perth, viz., 9·7 in a thousand, and the highest in Paisley, viz., 30·8 in a thousand.

Germany.—The deaths registered in fifty-two cities in Germany, having an aggregate population of 6,523,266, during the week ending January 8th, correspond to an annual death rate of 19·4 in a thousand. The lowest rate was recorded in Mayence, viz., 9·1 in a thousand, and the highest in Breslau, 34·6.

Havana.—There were 99 deaths registered during the week ending January 20th, including 1 from yellow fever.

Guayaquil.—There were 79 deaths registered during the week ending January 13th, including 25 from yellow fever, 3 from small-pox, and 21 from enteric fever.

Chili and Peru.—The United States minister at Lima, in his dispatch under date of January 5, 1887, states that prohibition is made against all ships from Chili leaving her ports after December 20th; that the measure is precautionary, and the immediate provocation he understands to be the appearance of cholera in Chili, at San Felipe, which town is said to contain about 10,000 people, and is the capital of the province of Aconcagua, situated near the base of the Andes, some thirty-eight or forty miles north of Santiago. A telegram on the 2d instant reported as having occurred there 55 cases and 40 deaths, but on the succeeding day there were no new cases. The same telegram reported that vigorous measures had been taken, and the locality had been isolated by a sanitary cordon. A telegram received from Chili, dated the 5th instant, communicated through the Chilian legation here (Lima), reported that the first case of cholera occurred December 26th, in the east of Aconcagua, and that the epidemic district, circumscribed to a square league, is absolutely isolated by the army in three successive lines of sanitary cordon, and it is hoped to extinguish it.

Genoa.—The United States consul, in his dispatch of January 13th, incloses a report from Dr. Ferrara, under date of the 10th instant, from which it appears that in 1886 two epidemics existed, one of cholera and the other of small-pox. Two years ago cholera appeared in Genoa, brought from Marseilles. In the month of June, 1886, the first suspicious case appeared, followed in a few days by other cases, which the sanitary authorities declared to be not Asiatic cholera, but nostras, or sporadic cholera. Nevertheless, all measures were taken to prevent the spread of the disease. During the year 1886 there were 700 cases declared to be Asiatic cholera, of which 500 proved fatal. The municipal authorities attended to the cleanliness of the town by having all the streets and lanes washed every night. They disinfected all the sewers, and washed the public lavatories with a solution of corrosive sublimate. Particular attention was paid to the disinfection of clothing and furniture. During the epidemic of small-pox which existed in Genoa from November, 1885, to July, 1886, there were 280 cases in the small-pox hospital, of which 47 proved fatal.

Mayence.—The United States commercial agent at Mayence, in his dispatch of January 8th, incloses a communication from the Hessian government, in which it is stated that, in the cases of diarrhœa accompanied with vomiting, which appeared in the communes of Gonsenheim and Finthen, near Mayence, in the months of September and October, 1886, regarded as cases of native cholera, and first brought to official notice in the second half of the month of October, it was possible in but one instance in the examination of a dead body, and once in a case ending in convalescence, to prove, microscopically and bacteriologically, the presence of Koch's bacilli. The medical authorities are not ready to say, at least as regards the majority of the cases which occurred, that it was Asiatic cholera. The post-mortem examination, on the 27th of October, of the last victim did not in itself justify a diagnosis of Asiatic cholera. The result of a microscopical and bacteriological examination of the contents of the intestines, October 29th, by experts, established the presence of Koch's bacilli, and thereby a diagnosis of Asiatic cholera was justified. On the 29th of October, in the case of a person sick with simple diarrhœa, the presence of Koch's bacilli in the evacuations was established. In Gonsenheim (3,229 inhabitants), during the time from September 17th to October 13th, there were 9 persons taken sick with symptoms of diarrhœa combined with vomiting, of whom 6 died. In Finthen (2,365 inhabitants), from September 25th to October 27th, there were 10 persons taken sick, of whom 8 died. The duration of the sickness varied. In a few cases, with a rapid course ending fatally, the symptoms lasted only seven to twelve hours. On the average, the length of sickness noted was one and one half to two days.

San Juan del Norte.—There were 5 cases of small-pox registered during the three weeks ending January 3d.

Rheims.—There were 52 deaths registered during the week ending January 22d, including 1 from small-pox, 2 from diphtheria, 3 from scarlet fever, and 2 from whooping-cough. Scarlet fever prevails.

Leghorn.—There were 56 deaths registered during the week ending January 23d, including 1 from enteric fever. There were 2 cases of small-pox reported, but no deaths from that disease.

Toronto.—There were 25 deaths registered during the week ending January 29th, including 1 from diphtheria.

St. Thomas.—There were 8 deaths registered during the week ending January 21st, including 1 from leprosy and 1 from small-pox.

Bordeaux.—There were 152 deaths registered during the week ending January 8th, including 3 from enteric fever.

Rotterdam.—There were 110 deaths registered during the week ending January 15th, including 4 from scarlet fever.

Trieste.—There were 111 deaths registered during the week ending January 15th, including 1 from enteric fever, 1 from scarlet fever, and 1 from diphtheria.

Glasgow.—There were 279 deaths registered during the week ending January 22d, including 9 from scarlet fever and 8 from diphtheria.

Leipsic.—There were 57 deaths registered during the week ending January 22d, including 7 from diphtheria.

Munich.—There were 103 deaths registered during the week ending January 15th, including 3 from scarlet fever and 3 from diphtheria.

Edinburgh.—There were 103 deaths registered during the week ending January 15th, including 2 from scarlet fever.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Estimated population.	Week ending—	Total deaths from all causes.	Annual rate of mortality in 1,000.
Havana............	208,000	January 20.	99	24·8
Guayaquil..........	35,000	January 13.	79	117·6
Rheims............	98,083	January 22.	52	27·6
Leghorn...........	94,423	January 23.	56	30·9
Toronto...........	120,000	January 29.	25	10·8
St. Thomas.........	15,000	January 21.	8	27·8
Three Rivers.......	10,000	January 29.	4	20·8
Matamoras.........	12,000	January 22.	8	34·7
Acapulco..	4,200	January 23.	5	61·9
Pernambuco........	111,000	January 5.	49	23·0
Cadiz......	65,028	January 15.	66	52·9
Stuttgart..........	125,510	January 22.	33	13·7
Frankfort..........	155,000	January 15.	42	14·1
Mayence...........	59,119	January 15.	25	22·0
Bremen............	119,000	January 15.	36	15·7
Leith.............	72,297	January 15.	25	18·0
Bordeaux..........	221,305	January 8.	152	35·8
Rotterdam.........	190,522	January 15.	110	30·1
Trieste............	150,157	January 15.	111	38·5
Amsterdam........	372,325	January 15.	163	22·8
Glasgow...........	545,678	January 22.	279	26·6
Leipsic............	170,000	January 22.	57	17·4
Munich............	262,000	January 15.	103	20·5
Edinburgh.........	258,629	January 15.	103	20·7

The Telephone as a Source of Infection.—At a meeting of the Caucasian Medical Society, Dr. A. P. Astvatzatüroff, of Tiflis, drew attention ("Proceedings of the Caucasian Medical Society," November 17, 1886, p. 263) to the danger of infection arising from the promiscuous use of the mouth-pieces of public telephones. To prevent any accident of the kind, he recommends that the mouth-piece should be disinfected every time after or, still better, before it is used. In other words, some disinfectant fluid should be kept at every telephone station, and the speaker should, first of all, dip the mouth-piece into the fluid, and then wipe it with a clean towel.—*Brit. Med. Jour.*

The St. Louis Medical Society announces, through its publishing committee, that henceforth reports of its proceedings will be available to any reputable medical journal.

The Liebig Company's Coca-Beef Tonic is thus spoken of by Dr. J. C. Le Hardy, of Savannah: "The want of a pleasant, nourishing, and easily assimilated tonic, containing as little alcohol as possible for its preservation, has always been a desideratum in our Southern climate, where dyspepsia or results of torpidity of the liver and of abuse in diet is very prevalent. For this reason I hail with pleasure preparations which may prove a relief. . . . I selected three cases of chronic dyspepsia, where the assimilation of food was defective, loss of weight, etc. The results obtained in two weeks were indeed surprising; one patient gained five pounds in weight, another three pounds, and the third one about the same."

The British Gynæcological Society.—In the list of newly elected officers, as given in the "British Medical Journal," we find the names of Dr. William T. Lusk and Dr. Paul F. Mundé, of New York, among those of the vice-presidents.

THERAPEUTICAL NOTES.

The Spleen as a Therapeutic Agent.—At the suggestion of Professor Maragliano, Dr. Predazzi ("Bollet. della R. Accad. Med. di Genova") has experimented with the spleen (of what animal is not stated), reduced to a pulp, as a blood-forming agent, using this mixture:

Spleen pulp..........................	2,250 grains;
Emulsion of bitter almonds............	5,250 "
Brandy..............................	750 "

The whole amount was given in the course of a day, with the meals, to each of five chlorotic patients. The diet consisted of soup with rice, macaroni, bread, etc., at 8 o'clock in the morning; another soup with four ounces of meat, bread, and a glass of wine at noon; and more soup at 6 o'clock in the evening. In from eight to twenty-five days there were observed a rapid improvement of the general condition, with an increase of the red blood-corpuscles; a prompt and lasting subsidence of previous functional disturbances of the nervous system, the digestive tract, and the circulatory and urinary apparatuses; an increase of arterial tension; and a gain in weight. [We agree with Dr. Breitung, who prepared an abstract of Predazzi's article for the "Deutsche Medizinal-Zeitung," that it is difficult to say how far the improvement noted can properly be ascribed to the use of the spleen pulp.]

Cannabis Indica in the Treatment of Headache.—Dr. Stephen Mackenzie ("Brit. Med. Jour.," Jan. 15, 1887) reports excellent results from the use of Indian hemp in the treatment of a class of headaches characterized by continuing day after day and week after week, not dependent on peripheral irritation or on anæmia, and apparently not of the nature of migraine. In a few cases there seemed to be a slight malarial taint, and in others it was thought that gout or rheumatism might be the cause. He gives a third of a grain or more (usually half a grain) of the extract night and morning, or occasionally three times a day. If at the end of a week there is some amelioration, these doses are continued; if there is little or no improvement, a grain is given at night and half a grain in the morning. If necessary, the doses are still further augmented, the largest being always given at night. He has seldom found it necessary to exceed two grains at night and a grain and a half in the morning.

An Injection for Fœtid Leucorrhœa.—The "Union médicale" gives the following formula:

Potassium chlorate.......................	13 parts;
Wine of opium...........................	10 "
Tar water..........	300 "

Two or three tablespoonfuls are to be added to a quart of warm water as a vaginal injection and lotion.

THE NEW YORK MEDICAL JOURNAL, FEBRUARY 26, 1887.

Original Communications.

MALIGNANT DISEASE OF THE SPINE:

A CONTRIBUTION TO THE STUDY OF

CRUVEILHIER'S "PARAPLÉGIE DOULOUREUSE."*

BY R. W. AMIDON, A. M., M. D.

CRUVEILHIER, while perhaps not the first observer to describe the train of symptoms caused by slow compression of the cord, certainly was the first to give this group of symptoms a name, and the first to define and subdivide the previously rather loosely used term "paraplegia."

In his beautiful work, "Anatomie pathologique du corps humain," etc.,† vol. ii, part xxxv, he divides paralyses of the extremities into two clinical groups distinguished by the presence or absence of pain: "Paraplégie douloureuse, which in general is the result of a compression exercised upon the cord by a growth developed either in the subarachnoid cellular tissue or outside the dura mater; and paraplégie non douloureuse, which applies to a disease of the substance of the cord itself." This clinical distinction, based upon pathological findings, has stood the test of scientific inquiry for fifty years, and to-day can not be improved upon.

The case entitled, *Extremely painful paraplegia; hydatid cyst developed in the spinal canal between the dura mater and the laminæ of the vertebræ; compression and suppuration of the cord*, in connection with which he first employed the term "paraplégie douloureuse," is so extremely interesting and typical that, would space allow, I should like to quote it freely. A rigid exclusion of all except cases of purely malignant disease of the spine prevents me from presenting it.

A study of more recent cases has convinced me that almost all the symptoms of "paraplégie douloureuse" may be present in cases where no pressure whatever is exerted on the cord, but rather on the spinal nerves at or after their emergence from the vertebral column. I shall briefly present the histories of the three unpublished cases of this sort, and review the literature of the subject, strictly confining myself to the study of cases of malignant vertebral disease, avoiding any reference to other varieties of vertebral disease, caries, tubercle, rheumatoid conditions, or growths of the membranes or of the cord *per se*.

CASE I. *Cancer of Sacrum, Lumbar and Dorsal Vertebræ, with Cancerous Nodules in the Liver, Kidney, and Lung.*—A man of forty, seen in consultation with Dr. Ellsworth Eliot and Dr. A. B. Ball. A sister of the patient had cancer of breast. The patient was a porter, and lifted a great many heavy cases, often straining his back. Had in years past many attacks of lumbago of short duration. In March, 1885, was seized with severe pain in the right lumbar region, which extended down the back of the right thigh and leg. About the same time he noticed some slowness in micturition. In a few weeks the same pain invaded the left lumbar region, and went down the back of the left thigh and leg. The pain was sharp and lancinating in character, seemingly following the trunk of the sciatic nerve. Later, a pain commenced in the left breast, and later still in the right breast and throughout the chest, and more or less in the abdomen. The pains were made much worse by coughing, taking long breath, or exercise. For the last few weeks the back and legs have grown so weak and painful that he has spent most of the time in bed. Has had no girdle feeling. Appetite has failed, and he has lost flesh and color. Bowels only move by enema. Some cough in the last few days.

Examined by me September 18, 1885, when the preceding history was obtained. Was then thin and cachectic-looking. Handled himself with the greatest care. Movements of the lower extremities were feeble, but *all* probably present. The legs were much wasted, but the wasting was general. Sensibility of the whole lower extremities to pain was much impaired, but by no means lost. Perhaps more marked in sciatic distribution than elsewhere. Sensibility normal above the pelvis. No hyperæsthesia anywhere, but spine all the way up was *very* tender on pressure, while the overlying skin when lifted and pinched was *not* tender. The liver extended five centimetres below the free border of the ribs, and seemed hard and slightly rough, and also very tender on pressure. Abdomen tender on pressure all over, but principally so in the right inguinal region. Femoral glands, left side, enlarged and hard; slightly so on right side. Supra-clavicular lymphatics, left side, distinctly enlarged and hard. Pulmonary resonance high-pitched over the right apex, where the voice and respiratory murmur were exaggerated.

I diagnosticated malignant disease of the sacrum and spine with implication of the liver and right lung.

The patient, Dr. Eliot tells us, gradually sank, never, however, becoming entirely paraplegic or losing control of his bladder or rectum, and died October 2, 1885, seven months after the occurrence of the first distinctive symptom.

The autopsy revealed extensive cancerous deposit in the bodies of the dorsal and lumbar vertebræ in the form of nodules, a centimetre in diameter and smaller, and also in the form of a diffuse infiltration of the same cancellous tissue. The sacrum was utterly disorganized, as was the body of the last dorsal vertebra. The new growths reached in some cases the spinal canal, but did not encroach upon its caliber, or in any way compress the cord.

On closer examination it was found that the intervertebral foramina, in the lumbar region especially, were tightly plugged with firm, cancerous tissue, in this way exerting continuous pressure on the emerging nerves. The cancerous process in the dorso-lumbar region had not gone on to the softening and consequent caving in of any of the bodies of the vertebræ, hence there was no deformity of the spine or distortion or narrowing of the spinal canal. There were cancerous nodules in the left kidney, the liver (which was also enlarged), and the apex of the right lung.

CASE II. *Cancer of Dorso-lumbar Spine, with Deposits in the Lungs and Diaphragm.*—A man, thirty-seven years old, seen in consultation with Dr. R. F. Weir at the New York Hospital. The patient had gonorrhœa badly when seventeen, and since then, commencing six months after the clap, had repeated attacks of rheumatism in various joints. He said his back was always weak. In February, 1885, was seized with a severe pain, starting in the left lumbar region and extending down and around the groin even to the scrotum and penis, with retraction of the testicle. This was thought by his physician (Dr. T.) an attack of renal colic, and treated as such. Pain then and since was only relieved by morphine. Before the use of morphine was commenced the bowels were constipated, and they have since remained so. Ever since the attack of so-called colic the patient has been troubled by severe pain in the lumbar spine on making any motion, and also pain in both lumbo-abdominal regions, worse on the left side, and down the front of the left thigh, which is numbish. Had been confined to bed three months, and had lost some appetite, color, and flesh. Last winter he might have committed some sexual excesses. Since spring he has noticed failure of sexual appetite and power. Has had no erection for six weeks. Since October 1st has had much pus in his urine. The patient was sent to the hospital with the view to being operated on for renal calculus, but the doubts of the surgeon as to the correctness of the diagnosis led to consultations which decided an operation not indicated.

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* Read before the Section in Neurology of the New York Academy of Medicine, January 14, 1887.

† Paris, 1835–'42.

I saw the patient November 1, 1885. I found him thin and cachectic-looking, although his wife did not lay much stress upon it. Thoracic and abdominal viscera apparently normal. Lumbar spine straight, instead of arched forward; perhaps slightly kyphotic. Spinal tenderness on pressure; commences in a slight degree at the eleventh dorsal vertebra, and gradually gets more exquisite until about the third lumbar vertebra is reached, where even slight pressure is very painful. From this point down the tenderness lessens until the sacrum is reached, where there is no tenderness whatever. There is no tenderness over either kidney, or in any other region. Quick movements cause much pain in the spine, and the patient is unable to lie on his face without a pillow or two under the belly. The left thigh and leg are a trifle smaller than the right. There was an anæsthetic patch, of the size and shape of the outspread hand, on the anterior surface of the left thigh, just below Poupart's ligament. The inguinal and femoral glands were enlarged on both sides.

I suggested that the pus in the urine was of vesical origin, and made a diagnosis of malignant disease of the dorso-lumbar spine.

The patient was also seen by Dr. A. B. Judson, who inclined to a diagnosis of malignant disease, while Dr. —— called it a case of caries sicca, and Dr. —— called it a case of rheumatic spondylitis.

The patient was removed to the private hospital of Drs. F. and H. L. Taylor, where I was told he gradually got worse and died.

March 28, 1886.—The autopsy revealed complete destruction of the body of the first lumbar vertebra by cancerous growth, and a consequent deformity allowing the apposition of the bodies of the twelfth dorsal and the second lumbar vertebræ.

Case III. *Sarcomatous Tumor of the Neck. Removal. Recurrence of the Growth in the Lower Cervical Spine.*—A man, thirty years of age. Seen in consultation with Dr. G. B. Phelps and Dr. W. T. Bull.

Patient rather delicate and always anæmic. A maternal aunt had malignant tumor of the breast. In the month of August, 1885, first noticed a lump in the right side of the neck, which gradually grew, and was finally removed by Dr. Bull and Dr. Phelps, February 9, 1886. When removed, it was egg-shaped, and about eight centimetres long. The operation and healing were without accident or hæmorrhage. In August, 1886, began to have dull pain across top of shoulders, and later vagrant pains and sensory disturbances of various sorts (burning, etc.) in the shoulders and down the arms. Pains always worse at night. Shoulders and arms became very stiff also. Variable pains came on in both pectoral regions. Was very careful in walking, because jarring caused much pain. Slept poorly; more comfortably on the back, with the head high. Has become more anæmic within the last three or four months, during which time he has lost six or seven pounds of flesh. Has lost much strength, which he attributes to continual pain. Bowels costive. On examination, I found him very anæmic and cachectic. Although he walked to my office, his legs had not a proper amount of strength. The knee reflexes were exaggerated; sensibility of upper and lower extremities normal; upper extremities of normal strength. Jarring or striking the top of the head caused much pain in the chest, some in the cervico-dorsal spine. Rotation not painful. Carries his head bent well forward.

On examination, there was seen to be a diffuse swelling over and alongside of the last cervical and upper two or three dorsal vertebræ; not very tender on pressure.

Dr. Phelps made out some signs of consolidation at the apex of the left lung.

Secondary sarcoma of the spine, with compression of the lower cervical and upper dorsal nerves, was diagnosticated, and a fatal prognosis given. Patient was advised to go home at once, where he could be properly cared for. Before he went (ten days) he had retention of urine and much weakness of the legs, both these symptoms coming on rather suddenly. Was helped to the train, and went home, where he grew progressively worse, and died January 16, 1887.

A general review of the cases published herewith reveals some interesting statistical facts.

A large proportion of the persons suffering from this disease are males; in the present instance, sixteen men and eight women. In age the subjects ranged from seventeen to seventy-nine, the average of twenty-three cases being forty-five years. The disease lasted from the appearance of the first nervous symptom until death, on the average, eight months, the duration ranging from seven weeks to two years.

There was an antecedent cancer of the breast in four women and one man. There was a family history of malignant disease in two cases: in one a sister had cancer, in one a maternal aunt. In the latter case the patient too had a sarcomatous growth removed from the neck. One woman had had an undescribed tumor removed from the mastoid fifteen years before. This latter patient attributed her trouble to a strain of the back, as did a man. In one case a severe blow upon the spine was followed in one month by malignant growth in the same place.

As for symptoms, the pains were described as follows: As *severe*, six times; *sharp*, five; *neural in distribution*, four; *lancinating*, three; *worse at night*, three; *aching*, three; *cramp-like*, four; *making the patient cry*, two; *shooting*, *vagrant*, *stabbing*, *burning*, *like renal colic*, *in twinges*, and *spasmodic*, once each. One patient complained much of a "drawing back" of the spine.

The pains disappeared or very much lessened toward death in six cases. The pains in almost every case were much aggravated by active or passive motion. In two cases there was hyperæsthesia of certain parts, and in two an anæsthesia of a neural distribution.

Ten cases developed complete paralysis of motion and sensation up to a certain level, with incontinence or retention of urine and fæces, and in five cases with gangrene or bed-sores. In these cases it is almost needless to add that a secondary destructive lesion of the cord existed.

No.	Observer.	Reference.	Sex.	Age.	Duration of disease.	Ætiology.	Nervous Symptoms.	General Symptoms.	Nature of Growth.	Spinal Lesions.	Other Lesions.
1	Owen Rees.	"Med. T. & Gaz." Feb. 1, 1862, p. 109.	M.	17	7 wks.	....	Severe pain between scapulæ; legs weak after exertion; 10th day, swelling right lumbar region; legs worse, with cramps; 26th day, could not get up from sitting posture, and no motion or sensation in the legs since; 34th day, incontinence fæces, and overflow of urine; 37th day, anæsthesia below fifth rib; pain in legs very slight.	35th day, movable tumor, right lumbar region; hard deposit in each epididymis; 37th day, legs œdematous; bed-sore on back.	Carcinoma.	Cancerous mass surround'g upper dorsal vertebræ and pressing on cord by squeezing between the vertebræ.	Upper dors. cord soft; growth 2·5 ctm. long by ·5 ctm. diam. between membranes of cord at that place; cancer of mesentery, jejunum, kidneys, each epididymis and left spermatic cord.
2	Cotard.	"Mém. de la soc. de biologie," 1865, p. 139.	F.	79	......	....	Sharp pains in loins and lower extremities, with failure of strength in the same; pains went away before death.	Died with uncontrollable diarrhœa.	Carcinoma.	Tumor on body of 3d lumbar vertebra, and the body of that vertebra cancerous; small growths in 4th lumbar vertebra.	Colloid cancer of the breast; nodules in lung.
3	Cotard.	"Mém. de la soc. de biologie," 1865, p. 139.	F.	69	13 mos.	Ulcerated cancer of breast of six years' standing.	Lancinating pains in breast, back, and inferior extremities, with numbness of fingers; pains in legs lessening before death.	Lateral deviation of the vertebral column; died of diarrhœa.	Carcinoma.	Cancerous masses in all dorsal and lumbar vertebræ; sinking in of bodies of 12th dorsal and 1st and 2d lumbar vertebræ; body 1st dorsal entirely cancerous.	Spinal cord intact; two cancerous nodules in liver.
4	Jeaffreson.	"Tr. Path. Soc.," London, 1868, xix, p. 426.	M.	68	16 mos.	....	Nov., 1866, severe pains in right hip joint, and restricted motion of same; abdom. tumor like enlarged spleen. March, 1867, pains more severe, and excruciating stabs in distribution of right crural nerves; left leg next invaded. Nov., 1867, aching pain lumbar spine, and swelling at site of 3d lumbar vertebra; gradual loss of power, but no paralysis of lower limbs, bladder, or rectum.	Several attacks of hæmaturia and uric-acid gravel and small calculi; neoplasm finally attacked right clavicle and left ulna.	Cancer.	Body of 3d lumbar vertebra obliterat'd by soft cancer, as were arches and spine to a less degree; nerves involved in cancerous growth; no encroachment on spinal canal.	Cancer left kidney, right supra-renal capsule, lungs, and intra-ventricular septum of the heart, also of soft tissues of back lumbar region.
5	Terrier.	"Jour. de méd. et de chir. prat.," 1874, p. 250.	M.	Adult.	2 yrs.	Cancer of breast.	Cancer of breast one year, when spontaneous very sharp pains set in in left lower extremity, with pain on pressure over sciatic; did not walk because it aggravated pain; no deformity, but sacrum was painful on pressure; year later sharp pains in legs, but no motor trouble or anæsthesia.	Year later, cancer of breast, large and ulcerated, with ulcerated lymphatics in axilla; died of erysipelas after the use of Canquoin's paste.	Cancer.	3d, 4th, 5th lumbar vertebræ and part of sacrum invaded by cancer; tissue of laminæ, transverse processes (left side), greater part of spinous processes, replaced by whitish cartilaginous tissue; cord normal.	
6	Morello and Stacchini.	"Lo sperimentale," 1875, xxxvi, p. 3.	M.	35	6 mos.	....	Pain in iliac fossa and hypogastric region, aggravated by getting up or moving; short time before death, motor and sensory paralysis of legs came on suddenly, with incontinence of urine and fæces; bed-sores.	Vomiting and diarrhœa; œdema of lower extremities.	Cancer.	One of abdominal tumors had caused destruction of the tenth dorsal vertebra, and compress'd the cord; softening of the posterior columns.	Three cancerous tumors of abdominal cavity.
7	Norton	"Lancet," 1878, ii, p. 649.	F.	35	7 mos.	....	Pain in back and loins, extending down legs; confined Jan. 10, 1878; pain on pressure in right groin and both gluteal regions. Mar. 21, can't stand or sit; swelling over lower lumbar vertebræ and sacrum on right side; movements right thigh very painful. Apr. 8, hyperæsthesia and œdema right leg; retention urine one day, and some motor paralysis. Apr. 29, anæsthesia in distribution of anterior tibial nerve. May 2, pains better; hyperæsthesia of left leg, which is paralyzed. May 13, anæsthesia both legs; later, legs stronger, and less pain and anæsthesia; more œdema.	....	Cancer.	Bodies of three lower lumbar vertebræ and greater part sacrum replaced by cancer; no displacement.	Right ilium, mesenteric and lumbar glands, left ureter, aorta, and trachea cancerous.

No.	Observer.	Reference.	Sex.	Age.	Duration of disease.	Ætiology.	Nervous Symptoms.	General Symptoms.	Nature of Growth.	Spinal Lesions.	Other Lesions.
8	Hünicken.	"Berl. klin. Woch.," 1878, p. 386.	F.	24	7 mos.	Strain of back (?); tumor of mastoid remov'd at age of nine.	Aug., 1876, sharp and severe pain in back on descending hill; month later, legs very weak; pains cramp-like, and at night would make her cry for hours. Oct., paraplegia, first bladder, then rectum; partial anæsthesia in lower extremities and diminished reflexes. End of Nov., gangrene of labia maj., and later nates.	. . . .	Sarcoma.	Sarcomatous tumor, 10th and 11th dorsal vertebræ; cord flattened; membranes intact.	
9	Edes.	"Bost. Med. and Surg. Journal," 1879, ci, p. 661.	M.	55	3 mos. (?)	. . . .	Pain in front of both legs, worse at night; 3 months later couldn't turn in bed; no decided paralysis, but great general weakness.	Loss of flesh	Sarcoma.	Body 2d lumbar vertebra replaced by new growth projecting anteriorly and to right.	Growth size of fist in right psoas muscle; two nodules in liver.
10	Kesteven.	"Tr. Path. Society," xxxiv, p. 216.	M.	35	4 mos.	Blow on back followed by great pain, which passed off.	One month after blow, pain in right hypochondrium; there was found increased hepatic dullness and displacement of the 8th dorsal vertebra, which was tender on pressure; some loss of voluntary power and sensibility; knee and ankle reflexes increased; involuntary twitchings; later, occasional involuntary motions and retention of urine; last week, bed-sores.	Cystitis and scanty urine; rigors; extreme emaciation.	Sarcoma, spindle-celled.	Body 7th dorsal vertebra destroyed; cord at that point softened; 7th dorsal nerves destroyed.	
11	Limont	"Med. Press and Circular," June 28, 1882.	M.	48	6 mos.	. . . .	Pain right lumbar region, soon went across to left side and down left leg; occasional twinges in crest left ilium; pains in lumbar spine made him scream; later, painful girdle about lower abdominal region; no deformity.	Emaciation; temp. over 100°; no enlarged glands; later, vomiting and constipation.	Cancer.	Bodies lumbar vertebræ riddled with small cancerous nodules; cord healthy.	Left ilium a mere shell from cancerous degeneration.
12	Seguin.	"Journ. of Nerv. and Ment. Disease," July, 1882.	F.	40 +	1 yr.	Tumor of breast removed in 1879; recurrence removed June, 1880.	Dec., 1880, pain in left ilium, later in right anterior femoral region; later, "drawing back" of the spine, and cramps throughout hips, thighs, and feet; confined, spring, 1881; in Sept. began to gradually lose power in legs. Oct. 1st, complete paralysis of motion and sensation in legs, with partial retention of urine; a kyphosis in lower dorsal region and one in lumbar; cessation of pain toward last; finally, bed-sores formed on trochanters and sacrum.	Progressive loss of color and weight.	Cancer.	Total destruction of the body of the 10th dorsal vertebra, with compression of the cord; same lesion of the 3d lumbar vertebra; gelatinous nodules throughout all parts of the spine examined.	Only spine examined.
13	Humphrey.	"Lancet," 1884, p. 14.	M.	72	13 mos.	Sister had cancer of breast.	Subject to occasional pain in the back and stooped; spines 5 lower dorsal vertebræ projected and were tender; later, constant b'ckache and spasms of pain in the stomach and loins, and down legs; later, legs got weak, unsteady, and uncertain, with an abatement of the pain; later, impaired sensibility, reflexes exaggerated and sensation retarded; 4 months before death retention and overflow; no bed-sores.	Constipation and nausea; emaciation.	Sarcoma.	Sarcomatous infiltration of almost entire spine; body of 10th dorsal crushed in and cord compressed just above lumbar enlargement.	Sarcomatous infiltration of muscles of the back.
14	Moll'nhauer.	"Am. Jour. of Neurol. and Psych.," iii, 1884, p. 484.	M.	46	9 mos.	Hepatic derangement 1 year before nervous symptoms.	Summer of 1883 could not rise or sit alone; dull feeling small of back; occasional lancinating pains down legs; irritable and ugly; first sleepless, later somnolent; no deviation of spine; no *ceinture;* some hyperæsthesia of the legs; legs weak, all reflexes and sensibility preserved; left leg more wasted; œdema both legs week before death.	Emaciation; anorexia; constipation; occasional diarrhœa; bilious urine; jaundice; enlarged nodular liver; large tumor abdom'n and over left quadratus lumborum; died comatose.	Myxosarcoma.	Destruction of part of body of 2d lumbar vertebra, and compression of the cord.	Large sarcomatous tumor of back, abdomen, and deposits in liver and kidneys.

No.	Observer.	Reference.	Sex.	Age.	Duration of disease.	Ætiology.	Nervous Symptoms.	General Symptoms.	Nature of Growth.	Spinal Lesions.	Other Lesions.
15	Kemper.	"Journ. of Nerv. and Mental Dis.," January, 1885, p. 9.	F.	44	4 mos. +	Mammary tumor removed Aug. 18, 1878; entire gland May 29, 1883.	July 7th, took to bed. Aug. 21, could not raise head or turn in bed; 8th and 9th dorsal vertebræ prominent; entire spine rigid and excessively tender; later, pain in right shoulder, both sides of chest, and across the lumbar region; weakness first right arm, then right hip, thigh, and leg; later, loss of sensibility in legs, body, and right arm. Oct. 7th, sudden retention of urine and fæces; later, girdle sensation above umbilicus, with anæsthesia below; later, loss of power left arm; later, œdema lower extremities; one small bed-sore.	Mucous râles, both apices; dyspnœa; in last month rapid pulse; temperature sometimes 101°.	Alveolar sarcoma.	Autopsy only partial; 8th and 9th dorsal vertebræ softened from sarcomatous deposit.	
16	Edes.	"Bost. Med. and Surg. Journal," '86, cxix, p. 559.	M.	51	2 mos.?	....	Pain in back, most in right side just below ribs, worse on full inspiration, moving or sitting up; no spinal tenderness.	Clotted blood in stools.	......	5th dorsal and 3d lumbar broken down, and many spaces filled with gray, gelatinous material.	
17	"	"	M.	55	3 mos. +	....	Pains front and back of legs, worse at night; unable to walk or turn in bed for three months; no distinct paralysis, but general loss of strength in both legs.	Great emaciation.	Sarcoma.	Body 2d lumbar vertebra replaced by neoplasm; slight implication of cartilage and bodies of 1st and 2d lumbar vertebræ.	Tumor in right psoas, and nodules in the liver.
18	"	"	F.	35	9 mos. +	....	Sciatic pain, making locomotion painful and difficult; when at rest, steady pains in the small of back, feet, and legs, worse below knees; both sides alternating; flexing head causes pain in back of neck; none on rotation; no spinal prominence or tenderness.	Died with great dyspnœa.	.... ..	Vertebræ very soft and infiltrated; cord intact.	Nodules in the spleen; tumor size of filbert in dura over each orbit.
19	"	"	F.	43	......	Scirrhus of right mamma.	Sudden loss of power in legs; pains in shoulders, and arms painful on motion; partial paralysis of the arms, and anæsthesia of lower part of body.	....	Cancer	Bodies of three lower cervical and first dorsal in state of cancerous degenertion.	
20	"	"	M.	48	5 mos. +	Tumor of sternum a year before nervous symptoms.	Sept., pain, numbness, and gradual loss of power in legs; pains sharp and shooting, and lasted 4 to 5 days. Dec. 4, became unable to walk, and had involuntary and unconscious evacuations. Dec. 11, paralysis of legs and partial anæsthesia up to middle of thigh, which became total. Dec. 22, bed-sores. Jan. 2, no reflexes below hypochondrium; died Jan. 17.	Great pallor; no icterus; temperature once 101°.	Sarcoma.	Bodies 11th, 12th dorsal and 1st lumbar vertebræ occupied by yellow grayish material; vertebral canal diminished to about one third its normal caliber; cord compressed and softened by tumor of dura mater.	Nodules outside and inside sternum: in the 9th rib, left side, and 4th and 11th ribs, right side.
21	Stickler.	"Medical News," 1885, xlvi, p. 599.	M.	30	16 mos.	....	For 9 months pain in back on walking or using lumbar muscles. Oct. 28, alternate sciatic pains; later, lost use of legs, and had incontinence of fæces; anæsthesia below 1st lumbar vertebra; 1 month later, incontinence of urine. Dec. 15, kyphosis, not angular, extending from last dorsal to 2d lumbar spine, not painful; died in March.	Extreme emaciation; middle of January, tumor in abdomen, left side.	Sarcoma.	Last dorsal and 1st lumbar vertebræ completely disorganized; no trace of cord at that point.	Enlargement of mesenteric glands; large retro-peritoneal tumor stopping one ureter.
22	Amidon.	....	M.	40	7 mos.	Sister, cancer of breast.	See text	Died of exhaustion. See text.	Cancer	See text.	See text.
23	"	....	M.	37	11 mos.	....	See text	" "	Cancer	" "	" "
24	"	....	M.	30	7 mos.	Maternal aunt, malign'nt tumor; patient himself, sarcoma of neck removed.	See text	" "	Sarcoma.	" "	" "

Deformity of the spine was mentioned in nine cases, pain on pressure over the spine in seven cases, œdema of the extremities in six cases, emaciation in thirteen cases, cachexia in five cases, jaundice in one.

The malignant disease was declared carcinoma in thirteen cases, sarcoma in nine.

Deposits of the morbid growth were found in the cervical vertebræ six times, in the dorsal seventeen times, in the lumbar twenty-two times, in the sacrum three times, and in all the vertebræ examined three times. The region most often found diseased was that extending from the tenth dorsal to the third lumbar vertebra; the latter being more often the seat of disease than any other one, being attacked in nine instances.

The other tissues or organs affected by the malignant disease were, in the order of their frequency: Liver, five times; kidney (one or both), four times; lungs and muscles of the back, three times each; ilium, ureter, and psoas muscle, twice; abdominal tumors and axillary glands, in two cases; while in one instance each the jejunum, supra-renal capsule, epididymis, spermatic cord, breast, heart, aorta, trachea, mesentery, mesenteric glands, lumbar glands, sternum, ribs, retro-peritoneal tissue, and cerebral dura mater were the seat of disease.

The immediate cause of death in most cases was undoubtedly exhaustion, although not so stated. In two cases an uncontrollable diarrhœa closed the scene, while in one case death was precipitated by an attack of erysipelas brought on by the use of Canquoin's paste on an ulcerated cancer of the breast.

We may therefore conclude that malignant vertebral disease is an ailment of middle adult life, more common in men than in women; that, while often following a malignant tumor of the breast, or occurring in a person with an hereditary taint, it frequently seems of spontaneous origin due to traumatism or strain; that it runs a chronic course measured by months; that its earliest and chief symptom is pain, generally dull and aching, in the spine, sharp, paroxysmal in the anterior regions of the trunk and in the extremities; that these pains are apt to be bilateral, and in the area of distribution of certain nerves or groups of nerves (neural pains); that they are aggravated by movement, and are generally worse at night; that complete motor or sensory paralysis, with disturbance of the functions of the bladder and rectum, indicates an encroachment upon the caliber of the spinal canal and consequent compression of the cord; that spinal deformity is often present, but never marked or very angular; that spinal tenderness is often present, sometimes acute, more often elicited by firm pressure only; that emaciation is generally marked, and cachexia probably more often present than described; that other symptoms depend on the implication of other organs by the disease, the œdema being due to obstruction of lymphatics or veins by the pressure of enlarged glands or tumors, the icterus and pulmonary signs being due to implication of the liver and lungs respectively; that the growth is rather more apt to be cancer than sarcoma; that the part most often attacked is the upper lumbar and lower dorsal spine; that similar disease of some other organ is the rule, the liver being most frequently the one involved; that the immediate cause of death is generally exhaustion.

Malignant disease of the spine is most apt to be confounded with acute spinal caries. To aid in the differential diagnosis, the following distinguishing features are appended:

	Caries.	Malignant disease.
Age	A disease of youth.	A disease of adults.
Antecedents	Tubercular.	Malignant.
Local tenderness and pain	Rare.	Common.
Neural pains	Later.	Earlier
Deformity	More frequent and angular.	Not always present, and seldom angular.
Anæmia	A late symptom.	An early symptom.
Emaciation	A late symptom.	An early symptom.
Cachexia	If present, a very late symptom.	An early and constant symptom.
Œdema	Rare; if present, anæmic or renal.	Frequent, and from obstruction.
Enlarged glands	Rare, and, if present, general.	Common and localized.
Abscesses	Present.	Absent.
Temperature	Hectic.	Seldom elevated.
Location of disease	In a large proportion dorsal.	In a large proportion lumbar.
Other organs involved.	If any, general tuberculosis, with predilection for the nervous system or the lungs.	All organs, most often the liver.

True paraplegia, when it occurs, of course due to compression myelitis, and the same in both.

From an ordinary lumbago the pains of malignant disease ought to be distinguished by chronicity and rebelliousness to treatment. A severe lumbago lasting several weeks, defying treatment, and lacking renal characteristics, should excite suspicion of organic spinal disease.

From ordinary sciatica the pains differ by their chronicity and rebelliousness to treatment, and the fact that they are generally bilateral and often accompanied by pains in the distribution of the crural, lumbar, or dorsal nerves; a double sciatica or continuous bilateral pains should always put one on his guard. Moreover, general weakness of the legs rarely occurs with sciatica. In spinal irritation, spinal tenderness is more apt to be general and exquisite, while the pains of that disease are fugitive, non-neural, and shifting. The history of the patient ought to have much weight in this case. Spinal irritation in adult males is rare. The protean manifestations of hysteria should not mislead a careful clinician in the face of the unmistakable signs of organic disease generally present. Spinal meningitis and pachymeningitis are comparatively rare ailments, and are generally characterized by *non*-neural pains and various spasmodic disturbances peculiar to themselves. Intra-spinal growths cause symptoms very closely resembling those of the late stage of vertebral disease, but the early appearance and rapid progression of paraplegic symptoms, and the absence of a previous protracted stage of neural pains *without* paraplegia, are suggestive factors in the diagnosis.

The history of the case, aside from the absence of ataxia, diminished reflexes, anæsthesias, retarded sensations, and periods of complete freedom from pain, should render a confusion of vertebral disease with posterior spinal sclerosis well-nigh impossible.

Inflammatory affections of the cord *per se*, forming the various types of myelitis, should be easily recognized by their almost universal freedom from *acute* pain, and by the early supervention of real motor and sensory paralyses and the frequency of vesical and rectal disturbances.

18 West Twenty-first Street, *January 23, 1887.*

A CONTRIBUTION TO THE PATHOLOGY AND TREATMENT OF THE RESPIRATORY VASO-MOTOR NEUROSES.*

By JOHN NOLAND MACKENZIE, M. D.,
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We are at present passing through a revolution of sentiment in regard to the pathology of certain affections whose external phenomena at least are chiefly or wholly manifested in the respiratory apparatus, and notably its upper segments. Phenomena inexplicable on commonly accepted beliefs have received their fitting explanation in morbid conditions of these structures linked to a disordered state—imperfectly defined it may be—of the vaso-motor sympathetic. Especially is this true of that interesting group of symptoms known as "hay-fever," but for which I think the term coryza vaso-motoria periodica a more appropriate appellation.

In this paper I shall limit myself strictly to the essentially vaso-motor neuroses, and shall not enter upon the discussion of the purely sensitive and motor reflex. As my views on the subject of the respiratory reflex neuroses, and especially in regard to vaso-motor coryza, differ in many essential particulars from those advanced by other observers, and as some of my *confrères*, who have done me the honor to quote from my writings, have apparently failed to appreciate the fundamental ideas underlying my theory of these affections, I will ask your indulgence while I recapitulate, as briefly as possible, the principal articles of my belief. I shall furthermore ask you to refer for a more elaborate statement of my case to my former communications on the subject of reflex and vaso-motor phenomena.†

That portion of the respiratory apparatus known as the naso-bronchial tract is, together with its appendages and connections, frequently the seat of certain periodical vascular disturbances in which paroxysmal explosions of nervous force play a conspicuous part, and which depend, it is reasonable to assume, upon some form of sympathetic or vaso-motor nerve-irritation. The vascular changes with their associated nervous phenomena may affect the upper respiratory tract in its entirety, either appearing simultaneously or successively in its different segments, or may be chiefly manifested or localized in some individual portion of the tract (nose, pharynx, larynx, bronchial tubes). In the latter case the nasal cavities and the bronchial tubes are most frequently the areas upon which the nervous shock is expended—the two territories being seemingly held in close reciprocal relationship by virtue of a physiological law of sympathy between the two extremities of a mucous tract. In the one case a sympathetic coryza results, in the other a sympathetic bronchitis.

In the evolution of these reflex phenomena two factors are conspicuously concerned: a depraved condition of the nerve-centers, and an abnormal excitability of certain portions of the naso-bronchial tract.

The derangement of the nervous apparatus may be transmitted from father to son, or it may be acquired in a number of different ways. Thus, for example, it may be the result of prolonged irritation of the respiratory membrane (*e. g.*, from nasal congestion and inflammation, polypi, etc., chronic affections of the larynx, pharynx, and bronchi), leading to repeated and continuous vascular disturbances over certain areas (as, for example, the frequent engorgement of that portion of the nasal cavities covered by erectile tissue), with subsequent abnormal irritation of the nerve-centers. I do not bring this forward as a mere theoretical assumption, but as a fact of personal experience, having been able to trace clinically the development of the neurasthenic condition from simple pathological irritation in the respiratory tract, and notably in the nasal passages.

It thus comes to pass, after a time, that the constant excitation of the nerve-centers by the peripheral irritation so alters their reflex excitability that they respond more readily to reflex-producing impressions. When, therefore, an increase of peripheral irritation occurs, either from extraneous influences or internal causes, a corresponding excitation of the centers is produced which expresses itself in a paroxysm. We might draw a parallel here between this chain of events and the mechanism of the epileptic attack, or the exaltation of the spinal nervous system from abuse or disease of the generative apparatus.

The exalted state of the centers may be conditioned in another series of cases, entirely independently of any local irritative process in the respiratory tract, by a constant wear and tear of the general nervous system from a multitude of causes—from the faulty nervous constitution which Beard has termed neurasthenia. Such a condition, it is not difficult to imagine, might produce in time a disordered state of the sympathetic and abnormal functional activity of the vaso-motor centers.

In individuals affected with this form of neurasthenia, local organic irritation would be more likely to lead to reflex phenomena referable to the region of the affected part than in those whose nerve-centers had not been subjected to the same amount of functional strain. In the vaso-motor manifestations under review are found simply an application and illustration of this natural law. Or, to put it in other words, the area in which the vaso-motor reflexes occur will depend, other things being equal, on the seat of the local pathological process—on the localization of the area of peripheral irritability. A polypus in the nose, for example, would excite in such a person symptoms referable to the respiratory system, while a similar growth in the rectum would elicit reflex disturbances referable to the lower bowel. Now, as there is no tract more subject to direct irritation from the external world than the respiratory, we should naturally look to it for manifestations of central vaso-motor disturbance, and herein lies the answer to the question which may be propounded: Why is it that these vaso-motor disturbances are so often encountered in the respiratory tract, and notably the nasal passages?

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* Read before the American Laryngological Association, May 29, 1886.

† See especially, "Trans. of the American Laryng. Assoc.," 1884, pp. 113 *et seq.* Papers on Coryza Vaso-motoria Periodica in "Medical Record," July 19 and Oct. 18, 1884; Rhinitis Sympathetica, "Maryland Med. Journal," April 11, 1885; Origin and Cure of Coryza Vaso-motoria, etc., "Trans. of the Medico-Chirurg. Faculty of Maryland," 1885; Review of Morell Mackenzie on Hay-Fever, "Am. Journal of the Med. Sciences," Oct., 1885, pp. 511–528; Production of Rose-Cold by an Artificial Rose, etc., *ibid.*, Jan., 1886.

In still another class of cases the excessive irritability of the nerve-centers may find its predisposing cause in pathological states of the system as a whole, as, for example, certain diathetic conditions; or it may be the result of reflected irritation from individual parts of the body.

There are certain diseases that tend to abrogate the functional activity of the nerve-centers, and at the same time show a special proclivity to manifest themselves or leave traces of their existence in the respiratory tract. I might instance gout, rheumatism, certain fevers, syphilis, etc., and it is a clinical fact that the origin of the trouble may be traced to such a source. You are familiar with the fact that vaso-motor coryza was, and is by some at present, supposed to be one of the protean manifestations of gout, from the alleged frequency with which it is encountered in those of a gouty diathesis. If what I have said above is accepted, however, it is scarcely necessary to point out the inadequacy of this theory, and to lay stress upon the proposition that gout enters as a factor into the ætiology of the affection only in so far as it is one of a host of diathetic conditions which lead to weakness of the nerve-centers and inflammatory conditions of the respiratory tract.

In connection with this portion of my subject I should like to call attention briefly to the occasional remarkable behavior of this group of respiratory neuroses under the influence of certain acute diseases. I have observed the whole group of symptoms—coryza, asthma, sneezing, cough, etc.—completely disappear during an attack of acute rheumatism, while in another case a recurrence of the nasal affection and asthma took place during an attack of measles after a prolonged interregnum of immunity from these conditions.

We now come to the discussion of the hyperæsthetic condition of the respiratory membrane. Is this factor constant, is it primary, is it the *fons et origo* of these affections, or is it fugitive and secondary? Is it the result of purely local disease, or is it the peripheral expression of more central nerve-irritation? These questions have an important practical bearing on the treatment.

It seems to me that the existing confusion in regard to these questions arises from failure to separate the hyperæsthesia naturally associated with the local pathological process and the excessive irritability principally met with during the paroxysms of this class of affection. According to my belief, the intense hyperæsthesia characteristic of the paroxysm is, like the vaso-motor phenomena (engorgement, swelling, etc.) which accompany it, a purely secondary phenomenon, and occurs only through the intervention of central irritation or paresis. This characteristic irritability may pass away with the subsidence of the attack, or may be more or less constantly present in the interregnum, according, presumably, to the amount of structural injury which the nerve-centers have undergone. This secondary hyperæsthesia may be brought about, then, if my view be accepted, either by a direct impression made upon the terminal nerve filaments in the respiratory mucous membrane, or by an indirect influence conveyed or reflected through the vaso-motor centers from a distant organ; or, finally, from an excitation starting in the centers themselves.

The hyperæsthesia met with in these conditions may be general, or localized in individual segments of the respiratory tract. In either case, while all portions of the tract as a whole or in part may share in the general hyperæsthesia, there are certain areas in which the latter is usually more pronounced, in which a greater susceptibility to the impressions by which reflex acts are produced is discoverable, and in which may be most conveniently and satisfactorily studied the vaso-motor manifestations of this special class of neuroses. These are: In the nasal passages, the area covered by erectile tissue, and chiefly that portion found in the lower and posterior portions of the nostril (posterior end of inferior turbinated body and erectile tissue in the septum immediately opposite—reflex sensitive area); in the pharynx, the vault and posterior wall; in the larynx, the inter-arytenoid commissure; and, in the trachea, certain areas along its posterior wall. It is worthy of notice that, roughly speaking, it is the lower and posterior portions of the individual segments of the respiratory apparatus where these sensitive areas have been shown to exist.

According to my belief, then, these affections are intimately related to some disturbance of the sympathetic nerve, and probably a deranged condition of the vaso-motor centers themselves.* The neurasthenic phenomena, whatever the condition may be upon which they depend, may, as has been pointed out above, be due entirely to a primary irritation or well-defined disease in the nostril or in other parts of the respiratory tract, but until this condition is produced the case is simply one of ordinary nasal inflammation, and does not become true vaso-motor coryza unti the nervous apparatus is markedly involved. In other words, in considering this affection we are dealing with a neurosis, or, at least, with an affection in which the neurotic element plays the essential and most conspicuous part.

In addition to the arguments already advanced in favor of this view, I desire to call attention to the existence of a hitherto undescribed neurosis of the aural apparatus closely allied or analogous in ætiology, mechanism, etc., to vaso-motor coryza, of which I have seen one case, which will be published in due time. Suffice it to say here that in this affection we have to deal with, if we may thus express it, a sort of hay-fever of the ear. When to this we add the recent observation of Dr. Gradle † concerning a periodical affection of the conjunctiva closely analogous to hay-fever, we have, it seems to me, additional evidence in favor of the sympathetic origin of the affection under review. In vaso-motor coryza the area over which the reflex vaso-motor disturbances are manifested is chiefly the territory which receives its vaso-motor nerve-supply from the sphenopalatine ganglion; in the aural neurosis, the phenomena are localized or more pronounced in the area presided over by the otic; in Dr. Gradle's cases of recurring conjunctivitis the parts involved are supplied by the ophthalmic, and so on.

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* For an elaboration of this point, see especially "Am. Journal of the Med. Sci.," Oct., 1885, *loc. cit.*

† "Am. Jour. of the Med. Sci.," April, 1886.

I would also refer to two additional observations which I have made, and which are of especial interest in view of the probable vaso-motor or sympathetic nature of the affection—viz., the occasional marked swelling of the thyreoid gland, and to an enormously swollen and congested condition of the auricles analogous to that of the rabbit's ear in the famous experiment of Claude Bernard upon the cervical sympathetic.

I have said above that the two areas most frequently and notably concerned in these respiratory vaso-motor disturbances are the nasal passages and bronchial tubes. This leads me to refer briefly to the question of asthma and its relation to nasal disease. To Voltolini is universally and erroneously attributed the credit of pointing out this interesting relationship. That the asthmatic paroxysm is not infrequently associated with or terminated by a discharge of mucus or serum from the nasal passages, is a fact which was familiar in ancient times. Thus, among others, Cœlius Aurelianus,[*] in speaking of the diagnostic value of an excess of mucus in connection with the so-called "convulsive asthma," after commenting on its various symptoms, proceeds to say:

> "*At si gravior impetus superpositionis fuerit, ora ægrotantium livescunt, et quidem excluso per nares humore mucilento, relavantur, atque præfocationis carent metu, quod non aliter cedit, etiamsi per oculos lacrimarum fuerit fluor.*"

He also gives a cold in the head (*gravedo*) as a symptom of asthma. It was not, however, until centuries afterward that Zecchius[†] described an asthma whose cause he ascribed solely to a catarrh of the head, whose premonitory symptoms were a pain in the head, a distillation from the nose, and a small cough, and whose treatment consisted in the use of the ordinary remedies directed against catarrh of the head. I have called attention, too, elsewhere,[‡] to the "suffocative catarrh" of Schneider, and the "anniversary asthma" of Floyer, as bearing upon this relationship. I may add that the association of asthma, whooping-cough, and sneezing was also observed by Josef Frank.[#]

Coming down to more recent times, we find Bree[‖] referring to a case of an asthmatic restored from the disease—

> "Whose Schneiderian membrane became unusually dry in the progress of his recovery, and was even affected at this time with inflammation. The fluctuating qualities of the air, often irritating this membrane, occasionally produced a paroxysm without expectoration, until the habit of relapse was at last conquered by the means employed." In another place he observes: "If there have been frequent repetitions of irritating causes and convulsive efforts of the respiratory muscles, the asthmatic paroxysm may much more probably supervene upon the milder effort to reject an acrid particle by sneezing and cough."

Later on, Rudolf Ferber,[*] of Hamburg, referring to the frequent association of sneezing, migraine, bronchial asthma, and hay-fever, advanced the theory that these phenomena were the expression of a neurosis of the trigeminus brought about by circulatory disturbances in the lower pelvis. These led, he thought, to a slowing of the venous current with stagnation of blood in the skin, mucous membranes, nose, etc. This abnormal condition finally begets a disturbance of the sensitive nerves of the parts with a tendency to reflex phenomena, manifesting themselves chiefly in the domain of the trigeminus. Thus the alveoli of the lungs and the mucous membrane of the bronchi become surcharged with venous blood, and this engorged condition probably acts directly on the sensitive filaments of the vagus.

I may mention here a little brochure to which I have never seen any reference, even among German writers, which I stumbled on accidentally in the library of the Surgeon-General's Office at Washington, and which I take pleasure in rescuing from an undeserved oblivion. The pamphlet is entitled "*Die Migraine ist eine Angina, der acuter Magencatarrh eine Neurose. Ueber die Bedeutung der Angina Faucium, ihre Verbindung und ihren Zusammenhang mit einer Reihe von Krankheiten,*" and is from the pen of Dr. Ferdinand Wydler, of Aarau. The chief contention of the author is indicated in the title of his work. Among the conditions supposed to depend upon slight catarrh of the pharynx are cardialgia, gastralgia, vertigo, vomiting of blood, epistaxis, sopor, delirium at night, hemicrania, neuroses of the trigeminus, cervico-occipital neuralgia, angina pectoris, brachial neuralgia, stenocardia, etc. He concludes as follows:

> "Nach meiner Auffassung ist die Hemicranie, sowie die frische Trigeminusneuralgie eine Angina, gleichsam eine fragmentarische Angina, mit den begleitenden hervorstehenden Krankheitssymptomen der einfachen catarrhalischen Angina nervöser erethischen Personen: eine Angina, bei welcher als hauptsächlichste Symptome, Prostration und Kopfschmerz, Schwindel, meistens auch Erbrechen erscheinen, und sich als Hauptleiden hinstellen, die jedoch deutlich von dem Zeichen der Zusammenhörigkeit des Zusammenhangs und Ursprungs, von der frischen Röthung der Schlundgebilde begleitet sind."

While the enthusiasm of the author carries him a little too far, his pamphlet must be regarded as an important contribution to the literature of the naso-pharyngeal reflex.

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[*] "De morbis acut. et chron., libri viii"; Amstelodami, 1709, lib. iii, cap. i, p. 430.

[†] "Consultationes medicinales," Francofurt., 1650, xviii, p. 160 *et seq.;* liii, p. 565; lxxiv, p. 708 *et seq.—et in al. loc.*

[‡] "Am. Journal of the Med. Sciences," January, 1886, p. 52, footnote, and p. 53.

[#] "Praxeos medicæ universæ præcepta," Lipsiæ, 1818, pars II, vol. ii, sec. 1.

[‖] Robert Bree, "A Practical Inquiry into Disordered Respiration, distinguishing the Species of Convulsive Asthma, etc.," Phila. ed., 1811, p. 145.

[*] "Der Neisekrampf u. deren Beziehung zur Migräne, zum Bronchialasthma u. zum Heufieber." "Arch. d. Heilkunde," 10ter Jahrg., Leipzig, 1869, p. 586.

Finally, Trousseau[*] discussed at length the relation of coryza to asthma, and Follin and Duplay[†] assert that many of those who suffer from nasal polypi "become subject to attacks of asthma." To Voltolini belongs the credit of curing his patient by removal of the nasal neoplasm.

The older writers, as has already been pointed out,[‡] were doubtless familiar with the disease known as "hay-fever," which they considered as a species of, or identical with, the so-called bronchial asthma of the present day. It was not until after the observations of Bostock that the asthma arising from the emanations of grasses was regarded as distinct from the asthma produced by other causes, while it has taken nearly a century for us to return to the simpler classification of the older nosologists. Even now our notions of the condition known as "asthma" are more or less vague and indeterminate. It is looked upon as a disease *per se*, as a distinct pathological entity; but if we consider exactly what is involved in the ordinary conception of this condition—that, like many other disturbances of respiration, it has no definite anatomical lesion—that it is common to an almost indefinite number of pathological states, we shall be forced to regard asthma as a symptom which, like cough, may be ushered in, follow, or occur simultaneously with irritation in various parts of the body, but which is most commonly symptomatic of some disorder of the respiratory tract. I do not propose, in this communication, to discuss the mechanism of the asthmatic paroxysm; whether it is essentially a spasmodic phenomenon, or whether the bronchial constriction is due to an engorged condition of the mucous membrane analogous to that seen in vaso-motor coryza—a transference, so to speak, of the nasal swelling to the bronchial tubes—are matters which do not come within the range of the present inquiry. While there are many reasons for belief in the correctness of the latter view, which was advanced by Weber,[#] and which has recently found an eloquent defender in Sir Andrew Clarke,[‖] and while such transference probably does take place in a large number of cases, still it were unwise, in the present state of our knowledge, to eliminate completely the element of spasm as a possible factor in other cases, and to lay down the law that the constriction of the bronchial tubes alleged to be peculiar to this condition can only be brought about by sudden swelling of the mucous membrane.

An interesting feature of a certain proportion of the class of cases we are now discussing is the occasional association of urticaria, asthma, and coryza. And just here I may remark that the relation of asthma to skin affections was familiar long before the days of Trousseau. Thus the illustrious Hoffmann[*] mentions, as a fact of common experience, that asthma sometimes follows the suppression of a cutaneous rash; and before him Baglivi[†] had recommended, in such an event, that the patient should sleep with one having the "scabies," that, catching it, he might be relieved of his asthma. It is also related that William of Orange was cured of an inveterate asthma during the running of a sore on the shoulder produced by the famous cannon-ball wound received at the battle of the Boyne.

In the condition of affairs that we are discussing, the coryza may precede the asthma and urticaria in time of appearance, disappearing or remaining after their eruption; or the asthma or urticaria may antedate the attack of coryza; or, finally, instead of alternating the one with the other, they may appear simultaneously in the individual. At the last meeting of this association I stated my belief that these phenomena seemingly depend on an imperfectly defined neurosis or vaso-motor influence (possibly some derangement of the cervico-occipital sympathetic), which is probably the connecting link between these affections. Now, in attempting to define the reciprocal relationship between this triad of conditions, we may regard the skin essentially as a part of the respiratory tract—as the external organ of respiration. It is only necessary for me to recall the physiological importance of the skin in respiration among some of the lower animals, and the embarrassment of respiration in man from pathological or experimental suppression of the cutaneous function. We may accordingly regard this neuro-vascular disturbance of the external surface as a natural symptom of the respiratory vaso-motor neuroses, and assume that, while the relation of asthma and coryza may be explicable by a possible normal sympathy existing between the two extremities of the internal respiratory tract, both asthma and coryza may be linked to the skin affection by a sympathetic bond which holds in equilibrium and close consent the whole mechanism of the respiratory function.

The principles involved in the foregoing propositions have served as the basis and rules of my practice in this class of affections during the past three years, and with a most gratifying result. In that time between sixty and eighty cases of paroxysmal vaso-motor neuroses of the respiratory tract have come directly or indirectly under my professional observation. Of this number, the nasal passages were most frequently the seat of the vascular disturbance, and next in frequency the bronchial tubes and pharynx. Occasionally the affection was more or less clearly localized in the laryngeal cavity, but, according to my experience, this is an exceptional event. While the sympathetic nerve disturbances manifest themselves most frequently in the nasal cavities, in a certain proportion of cases the pharynx and larynx appear to be the starting-point of the trouble, and I have traced a number of reflex phenomena, such as asthma, cough, etc., to diseased conditions of these structures. The vaso-motor disturbances, both of the pharynx and larynx, are, however, commonly associated with, or preceded by, similar affections of the nasal cavities. In the pharynx and larynx they are characterized by an excessive degree of hyperæsthesia—the very act of opening the mouth giving rise in some cases to retching and even vomiting. Indeed, a considerable number of cases of so-called hyperæsthesia and paræsthesia of the larynx and pharynx are traceable to some vaso-motor disturbance or sympathetic nerve irritation. The changes in the vascularity of the mucous membrane often take place with great rapidity, the vessel dilatation being quickly replaced by a condition approaching pallor, while the latter as quickly gives place to the laryngeal or pharyngeal blush. In cases in which the neurotic feature is especially well marked, the alternate dilatation and contraction of the vessels can be most conveniently studied. The suffusion and swelling may be diffuse and uniformly distributed over the structures, or it may be more pronounced over certain areas, presenting a certain anatomical resemblance to a cutaneous eruption.

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[*] "Clinical Medicine," New Syd. Soc. Trans., London, 1868, vol. i, p. 619 *et seq.*

[†] "Traité élémentaire de pathologie externe," Paris, 1868–'69, tom. 3, p. 815.

[‡] "Trans. of the Med.-Chir. Fac. of Md.," *l. c.* "Am. Journal of the Med. Sci.," Jan., 1886.

[#] "Ueber Asthma nervosum." See "Tageblatt d. 45 Versammlung deutsch. Naturforscher u. Aerzte in Leipzig," 1872, p. 159.

[‖] "American Journal of the Med. Sciences," Jan., 1886. In simple justice to Trousseau, whom some recent writers seem to overlook, it must be stated that he was the first to look upon the peculiar coryza (undoubtedly the hay-fever of the present day) occurring in connection with asthma (see above) as one of the manifestations of that disease, as a part of the asthmatic process, and also the first to suppose that the difficulty in respiration, sometimes associated with urticaria, was "occasioned by an eruptive or congestive state of the mucous membrane of the bronchial tubes analogous to the eruption and congestion on the skin." (*Op. cit.*, vol. ii, p. 284.)

[*] "*Ita experientia docemur, a scabie retropulsa . . . a tinea capitis male curata . . . nostram passionem exoriri.*" F. Hoffmann, "Op. omnia physico-medica," part ii, § ix, p. 257, Genevæ, 1760. In speaking, too, of the symptoms of asthma, he adds, "Mucus per nares excluditur."

[†] "Opera omnia med. practica," ed. octava, Lugduni, 1714, "Prax. med., appendix de asthmate," p. 104. "*Ex scabie retropulsa si asthma fiat, cum scabioso dormiendum est, ut scabies revocetur, vel urticis cedenda cutis.*"

The secretion of colorless watery fluid is not so constant nor so abundant as in analogous conditions of the nasal passages, nor is the swelling of the mucous surfaces so conspicuous. The reflex phenomena symptomatic of this class of pharyngo-laryngeal neurosis need not detain us at present. Suffice it to say that they are sufficiently numerous, and consist chiefly of various sensory and motor disturbances in the path of the nerves that radiate from the pharyngeal plexus, and in spasmodic contraction of the pharyngo-laryngeal muscles. In one case the spasm of the pharyngeal and palatal muscles was so great that it materially hindered the passage of air through the nares and laryngeal vestibule, causing the patient to start suddenly from his sleep with what might be termed a veritable naso-pharyngeal asthma.

In whatever portion of the respiratory tract these vaso-motor neuroses are situated, the general principles of treatment are in each and every event essentially the same.

When, some time ago,* I formulated the view according to which the so-called nasal or respiratory reflex neuroses, the group of phenomena known as "hay-fever," "asthma," and other reflex conditions found in connection with nasal disease, may be classed as symptoms which, owing their origin to a common cause, form part and parcel of a single pathological process, I did so not merely upon theoretical grounds, but based my conclusions upon the results of clinical experience—upon the observation that the treatment of one of these neuroses was essentially the treatment for all, and whether we had to deal with paroxysmal cough, asthma, or with the *ensemble* of those phenomena known as "hay-fever," "rose cold," etc., the therapeutic indications are identical.

With these brief prefatory remarks, let us turn to the most typical and interesting of these affections, in which the nasal passages and adjacent organs are the most conspicuous seats of the vascular disturbances, and which we may designate coryza vaso-motoria periodica.

The chief indications in the treatment of this affection are: (1) To remove any existing local respiratory disease or irritation; (2) to so alter the nutrition of the nerve-centers that they may not respond so easily to reflex-producing impressions; (3) to search carefully for any pathological condition, systemic or local, which may be regarded as a source of direct or indirect irritation of the nervous or respiratory apparatus, and adopt appropriate measures for its relief. Failing in the above measures, (4) the partial or complete destruction of the vessels or sinuses over the area or areas in which the vascular disturbance is most marked.

I have dilated at length, elsewhere, upon the manner in which these indications should be carried out, and shall, therefore, on this occasion, only offer a few supplementary suggestions.

The first lesson to be learned in the treatment of this affection is that it is a chronic neurosis, and, as such, requires chronic treatment. It should be remembered that the peculiar condition of the sympathetic is, like epilepsy, with the patient by day and by night, in winter and summer, ready at any moment, under favorable conditions, to give expression to its presence by a paroxysm. Any treatment, therefore, undertaken a short while before the expected attack or during its course, is almost wholly palliative, and can rarely, if ever, accomplish any permanent good. And thus the innumerable remedies (such as chloral, belladonna, opium, stramonium, etc.) which have been used from time to time can accomplish no lasting good, and in many cases either lose their beneficial effects altogether, or, in the end, by their constant physiological effects upon the nerve-centers, may tend even to aggravate the predisposition to the affection. In this category I would place cocaine. As I pointed out some time ago,* and also at the last meeting of this association,† the long-continued use of this drug in the nose and throat begets an increased irritability of these structures, due, probably, to the repeated contraction and consequent fatigue of the contractile elements in the smaller vessels and erectile tissues, which terminates in some cases in a subparalytic condition of these structures, and subsequent puffiness of the membrane. As the habitual use of carthartics eventuates, sooner or later, in constipation, so the prolonged use of cocaine will result, in a certain proportion of cases, in a hyperæsthetic condition of the mucous membrane. In the case of the erectile tissues, it is especially open to the objection that, by bringing repeatedly into play the contractile power of these structures, it may ultimately weaken their walls and lay the foundation for a permanent dilatation of the erectile cells. In calling attention to these disadvantages of its continuous use in these affections, I do not by any means desire to question the many excellent virtues of this remedy. In certain acute affections of the mucous membrane, and for its effect on the nasal erectile structures, pointed out by Bosworth, it is a God-send, but I am convinced that at present it is too indiscriminately and injudiciously employed. In the disease under review, it has in my hands utterly failed to dissipate, except temporarily, its symptoms, or to abridge, in the slightest degree, its course. For a short while amelioration is secured, but, at the expiration of a period varying from half an hour to two hours, the symptoms recur, and the drug has to be used again and again.

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* "Maryland Med. Journal," April 11, 1885.

* Discussion on Cocaine, May 15, 1885. "Trans. of the Med.-chir. Fac. of Maryland," 1885, p. 189.

† Discussion, June 26, 1885. "Trans. of the Am. Laryngol. Assoc.," 1885, p. 142. I may add that since then Beverley Robinson ("Med. Record," Oct. 17, 1885), Ingals ("Journal of the Am. Med. Assoc.," Feb. 20, 1886), and others, have recorded similar observations.

My custom is to treat this affection as I would any other chronic disease of the nervous system. The commencement of the treatment, accordingly, should date from the first appearance of the patient for consultation, and terminate, it may be, long after he is apparently free from his disease. I can not insist too strongly on the importance of prolonged and continuous tonic treatment addressed to the nervous apparatus. It may at first fail, and the paroxysms return again and again with all their accustomed severity; but, if it be persisted in, the time will come, sooner or later—provided there is not some incurable lesion—when the intervals between the paroxysms will be less and less, and the attacks themselves less severe, until finally they cease altogether.

The great mistake which is universally made, it seems to me, is the suspension of treatment upon the termination of the attack, and I therefore wish to emphasize the importance and necessity of continuous treatment throughout the interregnum of fancied immunity from the disease.

In carrying out this remedial course two difficulties will present themselves: the firmly-rooted belief in the patient's mind that there is nothing the matter with him in the intervals of exemption, and his natural discouragement when, in spite of treatment, he may have an occasional return of his old disorder.

The general tonic and hygienic treatment will vary with the individual peculiarities of the subject and the conditions of his environment, and will usually consist, to speak in general terms, of prophylactic measures directed against the development of nervous and catarrhal affections.

Among the many remedies I have tried in the constitutional management of this class of affections, I would mention and recommend arsenic, phosphorus, zinc, quinine, and nux vomica. These drugs may be used alone or in combination for an almost indefinite time, if the usual precautions in regard to their physiological effects are exercised. The following method of administration, although it has failed me at times, has, nevertheless, been so generally beneficial in my practice that I do not hesitate to recommend it for your trial:

(1.)

℞ Zinc. phosphid................ gr. $\frac{1}{16}$;
Quin. sulph.................. ... gr. ij;
Ext. nuc. vom................. gr. $\frac{1}{4}$.
M. Ft. pil. no. j.
S.: To be taken before meals.

(2.)

℞ Liq. arsenic. et hydrarg. iodid., gtt. iij ad v.
S.: In wineglassful water, after meals.

Formerly I used Fowler's solution, but for the past year have substituted the iodide of arsenic and mercury (Donovan's). The quantity of the ingredients should be increased according to the judgment of the physician. Should the physiological effects of any of the remedies manifest themselves, it should be stopped for a week or so, and then resumed in the same or diminished doses.

I may add, in leaving the subject of constitutional treatment, that for several years I have employed the above-mentioned lines of treatment in simple inflammatory conditions of the nasal passages and throat, and have found them important auxiliaries, especially in the earlier stages of the simple inflammatory process, when the vaso-motor element of inflammation is chiefly evident from the repeated and sudden erection of the turbinated structures.*

I have also seen good effects from the continuous use of the bromides and the iodide of potassium. In two cases I have made use of the constant current (from ten to fifteen cells), placing one electrode over the nape of the neck, and passing the other extremity of the current alternately over the region of the superior cervical ganglion and through the nasal passages. In one, apparent, and in the other decided, relief to the symptoms was obtained. Although my experience with this agent has not been sufficient to warrant me in pronouncing either for or against its use, I consider it, nevertheless, worthy of further trial.

In one case a satisfactory result, as far as the amelioration of the symptoms was concerned, was secured by partial obliteration of the pharyngeal vessels with the galvano-cautery. The patient, a physician, suffered from the pharyngeal variety of vaso-motor neurosis, associated with an abnormally large, swollen, and varicose condition of the veins on the posterior wall. The vessels were cut across in a number of places, and since the operation the paroxysms have been notably less severe.

In regard to the topical treatment of existing nasal disease, I can only repeat what I have said over and over again, that any treatment addressed to the nasal chambers accomplishes one result, and one only—it closes one door against *ab extra* irritation of the nerve-centers. In many cases, it is true, this will be of itself sufficient. The nasal passages may be the sole avenues through which the nerve-centers are influenced, and, with the removal of the irritant and the consequent physiological rest of the centers, the disorder may be apparently, and in the course of time actually, dissipated. But there are other cases in which, from what I have indicated above, such a course will obviously fail. Those of my colleagues, therefore, who consider the removal of the nasal obstruction or irritation as the sole remedy for this disorder, base their belief, it seems to me, upon an incomplete conception of its pathology. The value of the galvano-cautery and other therapeutic measures addressed to the nasal passages will depend, to a large extent, upon whether the existing nasal disease is the primary cause of the central irritation, whether it is the sequel of repeated attacks of vaso-motor coryza, or whether it is a purely accidental phenomenon. Whether primary, secondary, or accidental, it always acts as an excitant of the disease, and it is of the utmost importance that it should receive the most careful attention. But it must not be forgotten, at the same time, that behind the nasal, throat, and head phenomena stands the neurosis, and that, until the sympathetic nerve-irritation is overcome, we can not expect to thoroughly eradicate the disease.

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* See article by the writer in the "Medical News," Philadelphia April 4, 1885.

A CASE OF NEURALGIC OSTEITIS.

By J. H. WOODWARD, M. D.,
BURLINGTON, VT.

Mr. A. N., a farmer, about forty years of age, came to me for treatment in September, 1885. His well-knit frame denoted remarkable physical strength and endurance. His health had always been robust until his present attack. He had never used tobacco or alcoholic liquors, and no history of specific or hereditary constitutional disease could be obtained from him. In March, 1885, while operating a large, square churn, he was struck in the face by one of its corners with great force. The blow cut through his upper lip and laid bare the jaw-bone at a point directly over the root of the left upper canine tooth, loosening that tooth and both bicuspids. The wound through his lip healed promptly, the teeth soon became firmly fixed in their sockets again, but the wound through the gum at the root of the canine tooth did not heal, and later on it began to discharge. He worked on his farm as usual until about the 1st of August, 1885, when he began to suffer pain in the left side of his face. Up to that time his jaw had not given him any trouble. The pain rapidly increased in severity, until it was a constant dull, heavy, throbbing ache, which seemed to start from the region of the socket of his left upper canine tooth and invade every part of that side of his face. The pain was deep-seated. It was most severe about the canine tooth, at the infra-orbital foramen, in the substance of the malar bone, and at a point deeper than, but near to, the left temporo-maxillary articulation. After six weeks' trial of drugs, his physician had been unable to mitigate the severity of the pain.

At the date of his first visit to me, September 18, 1885, the patient was suffering with the excruciating pain already mentioned. He bore the marks of suffering in his countenance. He could not work. He could not eat. His nights were restless, and his sleep was broken by the agony he endured. He was losing flesh and strength. At the bottom of the small discharging excavation at the root of the canine tooth the probe touched bare bone. All of his teeth appeared to be sound. They were examined by Dr. F. H. Hudson, a skillful dentist, and nothing abnormal was discovered excepting the small excavation and the denuded bone at the bottom of it. None of the teeth were tender to pressure or percussion. Excepting in the region immediately surrounding the excavation, no signs of inflammation in the bone or soft parts were discoverable. During the preceding three weeks the patient had been annoyed by a purulent discharge, which flowed from his left nostril, and which seemed to be more abundant when he rested on his right side. Hypertrophic rhinitis was well marked in both nasal passages, but it was not more marked in the left than in the right. The walls of the antrum were not displaced in any degree.

September 20, 1885.—Anæsthetized the patient with ether, to which chloroform was sparingly added, for even an unusually large quantity of ether did not suffice to control his movements on the table. The anæsthetics caused profuse diaphoresis. The left upper canine tooth was extracted with considerable difficulty, for it was firmly adherent to its socket. The anterior wall of the socket was removed, and the inflamed bone gouged away up to the floor of the antrum. By perforating the antrum, I ascertained that it was in a healthy condition. No further indications for continuing the operation being noted, the patient was allowed to come out of the anæsthesia. He suffered considerable depression from the anæsthesia for several days.

The operation caused a noticeable temporary diminution of the severity of the pain; but two days later the patient was suffering intensely again. Full doses of quinine were given, without benefit. I was obliged to resort to opium in large doses to make life endurable for him. This operation wound was never the site of pain or uncomfortable sensations.

27th.—Owing to lack of anterior support, the first bicuspid tooth had become loose, and it was extracted. Its root was rough, and pretty firmly attached to the alveolus.

About this time electricity was added to the treatment. I found that the rapidly interrupted faradaic current controlled the pain better than the galvanic. The + electrode (my hand) was applied over the painful region in the face, and the — electrode was applied to the nape of the patient's neck. The strength of the current was gradually increased until my arms could endure no more. The sittings ended when the pain ceased—a result obtained after an hour or two of continuous electrization. The applications were given on alternate days. No unpleasant effects ensued from this treatment. Within an hour or two after the sittings the pain returned, and gradually attained its former severity.

October 15th.—The second bicuspid tooth has become sore. Patient says it seems to be about an inch too long, and he can not bite upon it. A very mild faradaic current temporarily removed those sensations. But after a few futile attempts to save the tooth it was extracted. Its root was rough, like the others.

The use of opium had been abandoned, and about this time I attempted to modify the pain with increasing doses of gelsemium, but failed.

November 23d.—The alveolar margin of the jaw behind the first operation wound has been tender, and the overlying soft parts have been inflamed for two weeks. Tincture of iodine has been applied to the inflamed region, and stimulating injections of chloride of zinc have been used in the sockets of the two bicuspids. No evidence of repair can be detected in the socket of the second bicuspid, but the other wounds are almost healed. The alveolar margin in this region is inflamed, and the treatment has not modified the progress of the inflammation.

The patient's general condition is improved. He sleeps fairly well. His appetite has increased. He can do light work; but he is never free from pain, excepting immediately after the applications of electricity, and the pain is generally very severe. The left side of his face and his left temple are very hyperæsthetic, and sensitive points exist at the inferior orbital foramen, over the inflamed bone and just in front of his left ear. His left upper molars are becoming tender, and they are sometimes painful. Twinges of neuralgic pain dart through the right upper teeth from time to time. The patient readily consented to another operation, which I performed, November 24, 1885.

Fifteen minutes prior to commencing the anæsthesia, three minims of Magendie's solution of morphine and $\frac{1}{120}$ of a grain of sulphate of atropine were given hypodermically. Ether and chloroform were administered, as on the former occasion. The patient passed under the influence of the anæsthetics without a struggle. No increase in the amount of perspiration was noticed. I extracted the molars with great difficulty, removing with each a segment of the jaw, which was firmly adherent to them. The entire alveolar margin, from the socket of the canine tooth backward, was cut away up to the floor of the antrum. This removed all the evidences of inflammation. The periosteum was saved.

The patient rallied promptly, and was not weakened by the anæsthesia, as in the first instance. The wound was not sutured. It was rinsed with cold water several times daily, and it healed very rapidly, leaving a linear scar. During the succeeding three or four weeks the contraction of the scar annoyed the patient somewhat.

The results of this operation were: complete and permanent relief from pain referable to the alveolar margin; marked diminution in the severity of the pain in other parts; complete relief from all pain for hours at a time; more restful sleep; greater ambition to work.

Still my patient suffered very much. I continued electrical treatment. The galvanic current was given, with good effect. The + electrode was applied over the infra-orbital foramen, and the — electrode on the nape of the neck. The current strength was as high as the patient's skin would endure. The sittings were from ten to fifteen minutes in duration. The anode was applied also in front of the left ear. Faradaic electricity was applied with the brush, and by the method adopted on former occasions. The total time consumed at each treatment was about thirty minutes, and I did not stop until the pain had been subdued. The electricity was given at first three times weekly, and, after six applications, twice weekly, until February, 1886. Under the treatment after the last operation, the patient gained rapidly.

February 1, 1886.—He suffers very little, comparatively speaking. He is free from pain during whole days. When the pain returns it is much less severe, and it passes away after a short time. Patient is eating and sleeping almost as well as ever, and he is working as usual. His left cheek feels uncomfortable, but it is much less hyperæsthetic than it has been at any time since his first visit. Discontinued the electrical treatment, and ordered a mixture of tr. ferri chloridi, hydrargyri chlorid. corrosiv., liq. potassii arsenitis, and acid. phosphorici dil., in tonic doses. He took this prescription six weeks.

March, 1886.—Patient is free from pain. Occasionally the uncomfortable and prickling sensations in his cheek trouble him, but they are passing away.

June, 1886.—No recurrence of pain. There is still some prickling in his cheek. No treatment.

November, 1886.—No recurrence of pain. Very seldom notices any abnormal sensation in his cheek. General health and strength normal. Scar normal.

A CASE OF
INTUBATION OF THE LARYNX.

By JOHN B. WHEELER, M. D.,
BURLINGTON, VT.

Examination of the reported cases of intubation of the larynx leads me to suppose that the result of the following case is rare enough to render it of interest to the readers of the Journal.

The case was one of membranous croup in a strong, healthy girl, three years and a half old, of French Canadian parentage. Intubation was performed January 16th, at 8 A. M. The child had been sick only twenty-four hours, but was already becoming cyanotic, and had an extremely labored respiration of 48 to the minute, with marked dilatation of the nostrils and recession at the ensiform cartilage. The respiratory murmur was very faint all over the chest. No membrane was visible upon palate, fauces, or pharynx. The pulse-rate was 156.

An O'Dwyer's tube of the newest pattern, and of the size marked 3–4 on his gauge, was introduced, with immediate improvement in the symptoms. In five minutes the number of respirations had fallen to 30 a minute, and the pulse-rate to 120; the manner of breathing had changed, the complexion improved, and air entered the lungs freely, as shown by auscultation. The child was perfectly comfortable all day, sleeping quietly a great part of the time, and taking nourishment, both solid and liquid, without the slightest inconvenience. During the evening the child breathed noisily, as though there were a good deal of mucus in the tube, but apparently without any impediment to respiration. At 10 P. M. she had a severe fit of coughing, and, according to her mother's account, "choked up and died in about two minutes." The distance between my office and the patient's home, one mile, rendered it impossible for me to be of any assistance.

No autopsy was allowed, but on extracting the tube it was found to be plugged with a large piece of false membrane, which extended almost to the top of the tube and protruded a quarter of an inch from its lower end, forming as complete an obstruction to the passage of air as the obturator itself would have done.

The general treatment of the case consisted in the administration of one tenth of a grain of calomel every hour, and in keeping the air of the room moist with steam. A snow-pack to the throat was ordered the evening before the operation, but I think it was not applied.

The termination of this case is unique, so far as I have been able to discover. A few cases of intubation are reported, two of them by Dr. O'Dwyer, in which the tube became plugged with false membrane; but in these cases the tube was at once coughed out, thus preventing the suffocation which proved fatal in my case.

As this is my first case of intubation, and as my experience of tracheotomy is small, owing to the reluctance of parents to consent to the operation, a positive expression of opinion regarding the comparative merits of the two operations would be premature. My tracheotomies number only two, both fatal. The result in each case is fairly attributable to negligence on the part of the attendants, who were too stupid and careless to follow out directions. As nearly all cases of croup, in this part of the country at least, occur among that class of people, the most desirable operation would seem to be the one which depends least for its success upon skilled or even intelligent nursing. This operation is generally acknowledged to be intubation, as compared with tracheotomy. In the case which I have reported, the result might, to be sure, have been different had any one been present who knew how to extract the tube when it became plugged. But this is only one case in a total of some two hundred which have thus far been reported, while there is no case of tracheotomy which does not call for more skill in its management than is usually to be found in the homes of the poorer class of patients.

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THE ALLEGED IDENTITY OF SMALL-POX AND COW-POX.

In our issue for December 11, 1886, we spoke approvingly of the efforts made by an English veterinarian, Dr. George Fleming, to point out the fallacy of the doctrine of the identity of these two diseases. We stated that the doctrine rested upon a flimsy foundation. Our statement called forth a letter from an esteemed member of the Massachusetts Medical Society, calling attention to an account of a presumed instance of the conversion of small-pox into cow-pox, *i. e.*, the production of cow-pox in a cow by inoculation with variolous virus. This letter we published in our issue for January 1, 1887, together with the promise that on some subsequent occasion we would attempt to point out the distinction that should be made between matters of fact and questions of interpretation in the accounts handed down to us by Mr. Ceely, Dr. Adams, and others.

The only indisputable fact about these gentlemen's experiments is that they succeeded in producing by variolation of the cow a disease which they considered to be cow-pox. It is remarkable that Dr. Adams seems to have succeeded in his first and only attempt, whereas Mr. Ceely made several fruitless attempts before he succeeded, and the testimony is not quite satisfactory that the Lyons commissioners succeeded at all. Variolation of the cow, then, whatever else may be said of it, must be conceded to be a matter of difficulty. When it succeeds, the question still presents itself, Is the resulting disease small-pox or cow-pox? Nothing in the pathological anatomy of the lesion will enable us to answer this question, for the pock of variola and that of vaccinia are identical; no man can tell them apart. Nor is inoculated variola necessarily productive of an eruption; very commonly there are no lesions save at the points of inoculation.

Recognizing these facts, those who affirm the possibility of producing cow-pox by inoculating the cow with small-pox virus rest their conviction on the phenomena which have followed the continued transmission of the disease in the human subject. Many thousands of such continued transmissions have been made, and in so few instances have they been attended with any indications that the disease was small-pox that there is a great deal of negative evidence, it must be allowed, to favor the doctrine of the identity of the two diseases, or at least of the possibility of converting the one into the other. But it should not be forgotten that this evidence is only negative, and that a single positive occurrence to the contrary is competent to upset it entirely. Dr. Fleming asserts that these instances have happened on several occasions, at least three serious accidents, he says, having resulted; and Mr. Ceely himself[*] says: "I could not be unmindful of the insidious but serious results of the very interesting and valuable experiments in India, performed by Mr. Brown, before alluded to, by which it appears that a vaccine disease propagated from the cows at Silhet had *ultimately and unexpectedly* [the italics are Mr. Ceely's] been accompanied by a varioloid eruption, and had assumed a fatal character."

In view of the difficulties which attend the interpretation of inoculation experiments, to question the correctness of Mr. Ceely's and Dr. Adams's conclusions involves no reflection upon their sincerity or upon their ability as observers. The truth is that inoculated small-pox may be transmitted many times without betraying any signs of its real nature, especially to an observer whose mind is preoccupied with the conviction that it is vaccinia. This has been strikingly exemplified from time to time in the cases of a few experimenters who fancied that they had "modified" the virus of small-pox by merely mixing it with cows' milk—for to that length has the notion of the cow's transmuting power actually been carried. Witness Dr. C. H. Tebault's experience in the Confederate Army. Dr. Tebault used the mixture of milk and small-pox virus, and he says: "I ingrafted one soldier after another with the modified lymph, until thirty-odd had swelled the list of my experiments. Of thirty-five persons thus successfully inoculated, three only exhibited a few additional pocks, in no case more than six, in addition to the seat of puncture. No perceptible difference could be detected, whether in the course of the pock or in its effects on the system at large, when contrasted with the phenomena attendant on simple, uncomplicated vaccine."[†] Variolation is a thing of the past; otherwise it would not be necessary to remind our readers of its frequent benignity through a series of inoculations. It is on that benignity that we found our contention that the human subjects inoculated from variolated cows by Mr. Ceely, Dr. Adams, and others, were really variolated and not vaccinated, and that small-pox and cow-pox are distinct diseases.

THE HEREDITY OF TUBERCULOSIS.

At one period in the history of medicine—the period of the diatheses—the belief in the direct hereditary transmission of consumption was implicit. It was even stated that the affection was seldom or never acquired. Then came the period of statistics, which showed that a large number of cases occurred in individuals with absolutely no hereditary taint, and that the offspring of affected parents might go through a long life without ever presenting any evidence of the disease. Heredity as an ætiological factor had now to be forced into the background, and prominence was given to *predisposition*, which, it was said, was often inherited from consumptive parents, to manifest itself only under favorable circumstances. Wherein this predisposition lay was not clearly stated. Koch's great discovery has, at one and the same time, imparted a fresh impetus to the subject, and afforded tangible material upon which to follow up investigations. With a palpable *casus morbi* at hand we are enabled to trace its course and ascertain whether it passes from parent to offspring, and how.

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[*] "Observations on the Variolæ Vaccinæ," etc. Worcester, 1840, p. 118.

[†] "New Orleans Med. and Surg. Jour.," July, 1866, p. 36.

That observers have not been slow to take advantage of this is evident from a glance at the medical literature of the past few years. In the January number of the "Revue de médecine," Professor Firket, of Liége, furnishes an able critical review of the work done in this direction, together with several original observations of considerable interest. He admits the rarity of true congenital tuberculosis, but that it does exist he considers proved by the investigations of Johne, Landouzy, and Queyrat. The direct transmission of the bacilli may occur in two different ways; either by infection of the ovum by spermatozoa mingled with bacilli, or by means of the placental circulation. The first-mentioned he considers purely hypothetical and extremely unlikely in the light of the examinations made by Jani of the healthy genito-urinary organs of phthisical patients. This observer examined the dried spermatozoa of nine bodies with negative results. In the testicles, he found a few bacilli in five out of eight cases, and in the prostate, in four out of six cases. The remainder of the genital tract was free from micro-organisms. The passage of the bacilli through the placental circulation the author considers much more plausible. The observations of Koubassoff and others demonstrate the probability of this theory, but the indispensable condition of the transmission through this channel is the presence of the bacilli in the mother's blood. At its commencement, however, pulmonary phthisis is in most cases a purely local affection, the morbific agents reaching the general circulation only after a tedious passage through the lymphatics. The patient may, and not infrequently does, succumb to the morbid process before infection of the blood takes place. The books say very little as to the frequency with which blood infection occurs. To determine this point, other organs besides the lungs must be examined. The thyreoid gland, from its anatomical features and relations, would appear the most suitable for this purpose, but, unfortunately, it shows very little disposition to secondary tuberculosis. Examination of the kidneys affords a safer criterion. In a hundred and forty-one examinations of consumptive subjects by the author, tubercular lesions were found in the kidneys in thirty instances—twenty-one per cent. It may reasonably be presumed that the placenta becomes affected secondarily in the same percentage. But do the placental vessels allow of the passage of the bacilli? Jani's observation of a pregnant woman with acute miliary tuberculosis, in whom tubercle bacilli were found in all the organs (but none in the placenta or in the fœtus), would give a negative answer. On the other hand, the experiments of Landouzy and Martin in inoculating with placentas from phthisical patients afforded positive results. Admitting, then, that the bacilli pass through the placenta, the umbilical vein becomes charged with them, and hence it is the liver and not the lungs that constitutes the site of predilection for these micro-organisms. This theory is supported by Johne's experiments and by Charrin's and Merkel's cases. In Charrin's case, a phthisical mother gave birth to a fœtus of seven months and a half, which lived three days. Tubercular lesions were found in the abdominal organs, especially the liver, but the lungs were found healthy. In Merkel's case, the mother, who was consumptive at the time of conception, went to full term, and died two days after delivery. The infant was emaciated at the time of its birth, and presented a small grayish-yellow tumor, of the size of a pea, on the arch of the palate. This underwent caseous degeneration and was followed by disease of the hip joint. The child died while a suckling, in spite of good care and nursing; at the autopsy the lungs were found intact, but there was a caseous focus on the palatine arch, involving the bone, and caseous foci were found in the lymphatic glands, in the liver, and in the coxo-femoral articulation. The author concludes, therefore, that, in true congenital tuberculosis, infection takes place through the placental circulation, and that the liver will be found the seat of tubercular foci, while the lungs may be intact. When the lungs are found diseased and the liver healthy, in all probability the disease is due to infection after birth.

MINOR PARAGRAPHS.

THE LIVERPOOL HOSPITAL FOR WOMEN.

The Liverpool newspapers contain accounts of the recent annual meeting of the subscribers to the hospital, by which we learn with regret that the discord among the members of the medical staff has resulted in at least temporary injury to the institution, having impaired its income, reduced the number of patients applying for treatment, and led to the resignation of some of its oldest and most efficient officers. Our readers will remember that the dissensions among the medical officers centered on the merits and demerits of the operation of removal of the uterine annexa, and that a prominent episode was a suit for damages brought against one of the surgeons, Dr. Imlach, by a woman who had been a patient in the hospital. Some of the speeches made at the meeting were very pointed, and the extraordinary step was taken of dropping Dr. Imlach from the staff. It seemed to be the general feeling, however, that no reflection on that gentleman's professional capability was intended, but that the action taken was the only practicable way out of animosities and dissensions which could not be allayed. We hope that the hospital will not be seriously crippled by this unfortunate affair, and we are quite sure that neither Dr. Imlach nor any surgical procedure advocated by him, even if somewhat too zealously, will be found to have been materially affected by it.

THE ATTITUDE OF THE PROFESSION BEFORE THE PUBLIC.

At a recent meeting of the Academy of Medicine, the president, Dr. Jacobi, read an address in which he remarked that the influence of the medical profession in promoting sanitary reforms depended upon its united action and upon the moral and intellectual status of its individual members. Instances were cited in which sanitary abuses had been to some extent corrected in consequence of concerted action by the profession, and some marked examples were pointed out of the present need of more work of the sort. A considerable part of the address was devoted to the subject of "newspaper advertising" in the way of reports of wonderful operations, etc., by which individual physicians and the entire profession were made to appear ridiculous before the public. Dr. Jacobi thought that this abuse had become much less common after his allusion to it a year ago or more, but that it was now being revived. Doubtless the newspaper reporter, and not the physician, was to blame in many cases, but the physician could not be too cautious in the presence of "interviewers."

DR. CORNING'S RESEARCHES IN COCAINE ANÆSTHESIA.

It is satisfactory to meet with an independent observer's frank acknowledgment of the value of such researches as those carried on by Dr. J. Leonard Corning as to the capabilities of cocaine as an anæsthetic, the first account of which was published in this Journal. In a paper contained in a recent issue of the "Deutsche medicinische Wochenschrift," Dr. E. Hoffmann, of the surgical clinic of the University of Greifswald, declares that "the essential advancement in the application of cocaine for local anæsthetic purposes, as seen in its present usual mode of employment, is attributable to Corning's discovery." Having described at some length the numerous useful points brought out by Dr. Corning's many painstaking and ingenious researches, the German writer adds: "These experiments of Corning's are the foundation for the present employment of cocaine for the production of local anæsthesia of the extremities."

A STUDENTS' DEMONSTRATION IN PARIS.

The "Progrès médical" states that, on the occasion of a recent distribution of prizes, the medical students of Paris became infuriated because they were denied the opportunity of the traditional row incident to the ceremonies heretofore. To display their contempt for the Director-General of the *Assistance publique*, three or four hundred of them took possession of the various offices of the bureau, smashed the windows, etc., and built a bonfire in the court. No opposition being made to them, they soon proceeded to the School of Medicine, bent on a demonstration against some decree issued by the dean. Here, also, although the police were present, the disorder was allowed to take its course, and not a single arrest was made. The journal from which we have taken the account expresses its satisfaction that the storm was allowed to exhaust itself without recourse being had to the customary lightning-rod-like devices for diverting it.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 22, 1887:

DISEASES.	Week ending Feb. 15.		Week ending Feb. 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	6	1	9	5
Scarlet fever	56	13	31	7
Cerebro-spinal meningitis	1	1	3	3
Measles	347	62	269	33
Diphtheria	107	48	69	28
Small-pox	14	6	11	3

The Health of New York City.—During the four weeks ending Monday, February 21st, there were reported to the Sanitary Bureau of the Fourth Division of the Health Department 34 cases of typhoid fever and 14 deaths; 163 cases of scarlet fever and 32 deaths; 11 cases of cerebro-spinal meningitis and 10 deaths; 1,506 cases of measles and 214 deaths; 381 cases of diphtheria and 154 deaths; 49 cases of small-pox and 18 deaths; and 1 case of typhus.

The New York Post-graduate Medical School and Hospital.—Dr. Joseph O'Dwyer will give a course of instruction in intubation of the larynx on Wednesdays and Saturdays, at 3 P. M., at this institution.

The International Medical Congress.—"We understand," says the "Lancet," "that the owner of the steam yacht Ceylon is anxious to place his vessel at the disposal of members of the medical profession and their families who intend to visit America during the Congress. The cost (inclusive of everything) would be, we believe, £50, but at least sixty passengers would be required."

The Death of Professor Beclard is announced in the "Gazette hebdomadaire de médecine et de chirurgie" as having taken place on the 9th inst., as the result of a pneumonia. The deceased was one of the early collaborators of the journal mentioned, and the president of the society of the "Dictionnaire encyclopédique des sciences médicales."

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 13, 1887, to February 19, 1887:*

Smith, Joseph R., Lieutenant Colonel and Surgeon. Detailed, in addition to his present duties, as president of the Army Medical Board in New York city, N. Y. S. O. 38, A. G. O., February 15, 1887.

Tremaine, W. S., Major and Surgeon. Sick leave still further extended four months on surgeon's certificate of disability. S. O. 39, A. G. O., February 16, 1887.

McCreery, George, Captain and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 35, A. G. O., February 11, 1887.

Taylor, Arthur W., Captain and Assistant Surgeon. Relieved from duty at Camp Medicine Butte, Wyoming, and ordered for duty at Fort Laramie, Wyoming. S. O. 14, Department of the Platte, February 12, 1887.

Wyeth, M. C., Captain and Assistant Surgeon. Ordered from Fort Wayne, Michigan, to Fort Barrancas, Florida. S. O. 39, A. G. O., February 16, 1887.

Morris, Edward R., First Lieutenant and Assistant Surgeon. Leave of absence extended twenty days. S. O. 35, A. G. O., February 11, 1887.

Wakeman, William J., First Lieutenant and Assistant Surgeon. Relieved from duty in the Department of the Platte, to take effect on the expiration of his present leave of absence, and ordered for duty at Fort Walla Walla, Washington Territory. S. O. 36, A. G. O., February 12, 1887.

Society Meetings for the Coming Week:

Monday, *February 28th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

Tuesday, *March 1st:* New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Hudson, N. J., County Medical Society (Jersey City); Essex, Mass., South District Medical Society (annual—Salem); Androscoggin, Me., County Medical Association (Lewiston).

Wednesday, *March 2d:* Harlem Medical Association of the City of New York; Medical Society of the County of Richmond,

N. Y. (Stapleton); Penobscot, Me., County Medical Society (Bangor); Philadelphia County Medical Society; Bridgeport, Conn., Medical Association.

Thursday, *March 3d:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *March 4th:* Practitioners' Society of New York (private).

Saturday, *March 5th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

OBITUARY NOTES.

Fenner Harris Peckham, M. D., one of the oldest and best-known physicians in Providence, R. I., died on the 17th inst., of Bright's disease, from which he had suffered for nine years. Dr. Peckham, the son of an eminent physician, was born in Killingly, Conn., in 1820. He was graduated at Yale Medical College, and began his medical practice in Connecticut, where he remained until 1852, when he settled in Providence. During the war he was a surgeon in an artillery regiment. Of late years he had given up the burden of a large practice to his son, Dr. Fenner H. Peckham, Jr. Dr. Peckham was widely respected and esteemed for his professional skill and his stanch integrity.

Letters to the Editor.

ANTIPYRINE AS A HÆMOSTATIC.

Boston, *February 18, 1887.*

To the Editor of the New York Medical Journal:

Sir: A statement has, I am informed, been printed in some of the journals recently to the effect that antipyrine is a useful remedy internally in cases of hæmorrhage, and attributing its first use in this way to a German professor within the past few weeks. I wish to say, through the columns of your journal, that, at a meeting of the Boston Therapeutical Society, held in November, 1886, Dr. A. F. Pattee, the president, stated, during a discussion on the drug, that he had used it for some time internally as a remedy for hæmorrhage, particularly in that from the lungs and the respiratory tract, and found it to be a valuable remedy in this class of cases; also that it was a good local hæmostatic. In the last statement he was corroborated by several of the gentlemen present. The fact was also emphasized that in the hectic fever of phthisis antipyrine was one of the best remedies, if not the best. John W. Johnson.

Proceedings of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Annual Meeting, January 12, 1887.

The Vice-President, Dr. T. Mitchell Prudden, in the Chair.

Officers for the Ensuing Year.—At the executive session, Dr. T. M. Prudden was elected president; Dr. W. P. Northrup, vice-president; Dr. W. M. Carpenter, secretary; Dr. J. H. Hinton, treasurer; Dr. J. C. Peters, editor; Dr. W. Mendelson, Dr. J. C. Peters, Dr. H. Marion-Sims, Dr. L. E. Holt, and Dr. W. H. Porter, committee on admissions and on ethics; and Dr. G. C. Freeborn and Dr. W. P. Northrup, members of the committee on publication.

Pneumonia.—Dr. Northrup presented the lung of a child which had died of pneumonia following measles. The point of interest was the exhibition, by a favorable cut, of the bronchial tree.

Syphilitic Lung.—Dr. W. H. Porter presented a lung and microscopical sections in further illustration of the points made regarding the syphilitic lung and the absence of the tubercle bacillus in such cases at a recent meeting of the society.

Broncho-pneumonia; its Different Stages Illustrated.—Dr. L. E. Holt presented the lungs of a child, eight months old, dead of broncho-pneumonia which had grown worse for six or eight weeks. One portion of the lung showed the lesions which evidently had taken place at the commencement of the disease; a second portion, those about three weeks old; a third portion, those two or three days old.

Typhoid Fever with Symptoms of Cerebro-spinal Meningitis.—Dr. R. W. Amidon presented the intestines of a woman, showing marked lesions of typhoid fever. The disease had been of eight weeks' duration, and many of the ulcers in the lower part of the ileum had healed; an ulcer which had caused death by hæmorrhage was situated three feet from the anus and was in a sloughing condition. The interest in the case centered in the fact that the symptoms were largely those of cerebro-spinal meningitis. The woman, aged thirty years, began to complain of pain in the occiput about November 19th. Pain at the back of the neck, stiffness of the neck, and pain in the temples continued, and it was thought she was suffering from cold. She had chills, the pain grew worse, and about a week after the commencement of her illness her physician, Dr. Currier, was called. Her temperature at this time was about 103° F. The cerebro-spinal symptoms were exaggerated, with the addition of pain in the back. A peculiarity of the case throughout its course was the irregularity of the temperature, which was usually higher in the morning than in the afternoon, and fell nearly to normal on two or three occasions. Dr. Amidon saw the patient only once in consultation, about the third week of her illness, when the symptoms mentioned were present; there was no gurgling over the cæcum, no special tenderness of the abdomen, and no eruption. He made a diagnosis of cerebro-spinal meningitis, with the reservation of possible typhoid fever. Three days later an eruption appeared in patches all over the body, scarlatinal in character, most marked about the joints. On the 30th of December the temperature was 97·8°. Two or three days later she ate to excess, and again had chill, rise of temperature, and pains. On the morning of January 4th the temperature was 102·8°, and she had two chills and suffered from severe occipital pain; in the afternoon she had five chills. Dr. Currier diagnosticated septicæmia or pyæmia, and Dr. Amidon, being told of the symptoms, thought it probable that septic poisoning was taking place from typhoid ulcers. The temperature went up to 105°, and she had frequent chills, but by the 10th of January the temperature had fallen nearly to 101°. On the afternoon of the 11th she died of hæmorrhage from the intestine. As far as the speaker was informed, attention had not yet been called to the differential diagnosis between typhoid fever and cerebro-spinal meningitis. He had made brief search and had found only one case of septicæmia following typhoid fever. In this case no lesion was found in the spinal cord; the brain was not examined.

NEW YORK SURGICAL SOCIETY.

Meeting of January 26, 1887.

Dr. Robert F. Weir, Chairman.

Osteoplastic Operation after Necrosis of the Femur. —The following case was reported by Dr. Lange:

"The patient whom you see before you is forty-six years old, and is a native of northern Germany. When ten years old he had, according to his statement, a serious and very painful affection of his right knee and thigh, which kept him in bed for one year. His physicians had proposed amputation to him, but, through the wisdom and cleverness of a midwife, as he said, his limb was saved, and he was able to get up on crutches. A number of sinuses had opened, and for about eleven years suppuration persisted, but then ceased. The shape and shortening of the limb had always been the same since that acute disease as at present, and at no time had any surgical operation been done, nor had any bone come away spontaneously, until about sixteen years ago; that is, for about nine years all remained healed. Then, however, sinuses formed again, and did not heal. I saw the patient about one year ago. He attributed this renewed suppuration to his habitually having a board on his knees over which he used a heavy flat-iron while working at his trade as a tailor.

"There was a profuse offensive discharge from a fistulous opening near the external edge of the right patella, just above the condyle, at the bottom of which necrotic bone could be felt. The whole limb presents a rather monstrous deformity. There is bony ankylosis of the knee joint at an angle of about 140 degrees. The femur is about eight inches shorter than that of the other side, and there is a distinct angular bend at a point between the middle and lower third of the femur.

"Just about a year ago I performed necrotomy by making an H-shaped incision, forming flaps which included the periosteum, and removing the patella and the anterior portion of the lower third of the bone, so that, after the removal of the numerous sequestra which you see here, a shallow bone cavity was formed, into which the soft parts were depressed and fixed by strong, straight needles.

"The healing process took place very rapidly, so that after about four or five weeks the patient went home with a few granulating superficial wounds, which finally healed under an ointment dressing.

"About three months later a fistula formed again, and in September of last year I had to make a thorough revision, to scrape out and chisel away some carious bone at the bottom of the former cavity. At present everything seems perfectly solid and cicatrized, and the patient uses his leg as well as his high heel (for equalizing the shortening) allows him.

"The case is very interesting in some respects. When a boy of ten the patient doubtless had a severe acute osteomyelitis with spontaneous fracture of the thigh, but no necrosis of any great extent could have existed. Otherwise the suppuration would not have ceased for fully nine years. No doubt the pieces of dead bone which I found at the operation a year ago belong to a process of secondary necrosis. They also present a character quite different from that of the usual sequestrum. They look like dead cancellous tissue, and were found in a portion of bone which normally has no bony substance in its center. The whole lower third of the thigh-bone proved to be filled with a new formation of bone, and that had undergone partial necrosis, apparently in a very chronic manner. The primary acute osteitic process had not had the immediate effect of necrosis, though it must have been very severe, judging from the spontaneous fracture of the bone, but it led to diffuse ossifying osteitis. Probably some of the infectious material remained encysted until, later on, in consequence of some noxious influence, it must have been set free, and, by its injurious action upon the newly formed central osteophytic substance, caused necrosis of the same. This secondary necrosis or breaking down of newly formed substance, especially in the lower third of the femur, is not uncommon.

"About three years ago I presented before this society three cases belonging to this group. In all of them extensive cavities in the lower part of the femur existed, and plastic operations similar to that just described proved to be effective. If let alone, these bone-cavities, in persons of somewhat advanced years, will not heal. The cavity must be obliterated by a plastic inversion of soft parts, which, in cases like these, where bony ankylosis of the knee joint exists, are best taken from the anterior aspect of the thigh, the patella being removed. These operations must, of course, be done aseptically, if union of the flaps by first intention is to be expected, and it is by no means easy to do the operation with such thoroughness that a perfectly aseptic wound is left. The sharp spoon, chisel, and disinfecting fluids must be used carefully in all the remote corners and granulating recesses, which, if left untouched, will, of course, become the seat of suppuration.

"I regard this method of dealing with bone-cavities as a decided advance in modern surgery, and I can not recommend it too highly also for certain cases of necrotomy in younger persons, where large bone-cavities remain after the operation. There happens, though exceptionally, a certain kind of necrosis, the so-called 'necrosis disseminata,' in which numerous sequestra are scattered all through the bone, lodged in small, shallow lacunæ, which are generally connected with each other by narrow canals filled with granulations. [A number of illustrative specimens were presented.] It requires not infrequently great care to trace these canals, and, after thorough removal of all the dead pieces of bone, eventually a thin involucrum may remain. I have, with very satisfactory results, tried to obliterate such cavities by inversion of the soft parts, and have done so on the thigh, the tibia, and the radius. On the thigh I have made use of the soft parts on the inner aspect; on the tibia I have formed flaps corresponding to the inner side of the bone. Into cavities at the head of the tibia I have, after the proposition of Neuber, to whom we owe this recent method, inverted tongue-like flaps having their bases in the region of the tuberosity. Where very thick soft parts have to be cut across, as in the thigh, I take some care in tying all visible vessels when cutting down to the bone, and do not trust to the effect of the compressing dressing before removing the constricting bandage. On the contrary, I remove the latter in these cases before applying the dressing. Sometimes, while the limb is elevated, digital compression of the main artery is kept up, so that only a small quantity of blood is allowed to pass into the distal portion at intervals. All vessels of any importance are ligated, and then, after inverting and fixing the flap, I apply a compressing antiseptic dressing. I usually change the dressing on the second day, especially in summer. The second dressing may stay for one or more weeks, when, as a rule, union of the flaps will practically be obtained, and the open spaces left will show healthy granulating surfaces.

"One more word about secondary necrosis in cases of osteomyelitis. There exists one variety of this affection which I might rather call secondary metastatic necrosis. For instance, a boy had extensive necrosis of one tibia, involving the ankle joint. He underwent necrotomy. Altogether eighteen sequestra, including the two lower epiphyses, were removed. The healing process went on somewhat slowly, and the boy, though gaining in flesh, showed a pale, almost chlorotic appearance. He walked for several weeks on crutches, as he had done before the operation, when a subacute affection of his right os brachii at about its upper third occurred, and, after incision of an abscess, which contained very little pus, bare bone was felt. A sequestrum was removed and the wound gradually healed. About one month later he developed the same trouble in the other os brachii, almost exactly at the same point, and here also a central sequestrum was found. In another boy, who in the acute stage developed an osteomyelitis of the ilium at the end of the first year (apparently from the constant use of canes), inflammation of the lower epiphyses of both radii and exfoliation of small sequestra took place. You perhaps recollect a boy whom I presented here about two years ago. He had a severe acute osteomyelitis in the hip joint, with necrosis of the head of the femus and spontaneous epiphyseolysis. About one year after the first attack, when suppuration was still present, after he had been using crutches for a good while, he developed a central bone abscess in the lower part of the radius just above the epiphysis, and in the course of that year the same condition existed in the upper third of the os brachii, which had been exposed to the pressure of the crutch, and in the diaphysis of the tibia, where he had knocked himself. I emphasize the fact that in none of these cases during the acute stage had the regions secondarily affected participated in the diseased process, though in some of the cases multiple acute osteomyelitis was present. I can not explain this occurrence except by assuming that a mechanical lesion at certain points in a subject still affected with the poison of osteomyelitis (whether that poison is the *Staphylococcus aureus* or some other parasite) will favor the deposition of the poison at those points, where it will develop its characteristic lesion.

"None of these secondary metastatic affections were of a very acute type, but they were either subacute or chronic, perhaps in consequence of the diminished susceptibility of the already inoculated constitution. A last practical word. I see often in our hospitals undue force used in applying the constricting elastic tube for bloodless operations; this is superfluous, and only increases the paralysis of the circulation. I show here Nicaise's bandage, which, except for the thigh in muscular subjects, will answer every purpose. It is a good plan to try on one's own limbs how little elastic pressure is necessary in order to arrest the circulation. In patients who are under an anæsthetic this force is still less, and I should advise never to apply the bandage before the patient is fully anæsthetized."

Dr. Abbe asked if the angle of fixation had always been the same, to which Dr. Lange replied in the affirmative, adding that for thirty-five years the patient had walked with his leg in that position.

Nephrectomy for Pyonephrosis.—Dr. Lange exhibited a kidney which he had removed at the German Hospital in November from a woman about forty years of age. Nephrotomy had been performed several weeks before, a large quantity of extremely offensive pus being removed. The kidney at the time of the operation had been as large as a child's head. Some improvement had taken place after the nephrotomy, but a profuse discharge of pus had continued, hectic symptoms had appeared, and the patient's health had failed so much that it had been decided to remove the diseased organ. The usual lumbar incision had been made, and the distal ends of the eleventh and twelfth ribs had been resected, in order to gain more room, because at his last operation the speaker had found that the kidney extended high up under the diaphragm. The operation had not been entirely a simple one; the peritonæum at the upper angle of the wound had been torn, in spite of the fact that the retractors had been covered with flat sponges. The rent had been covered with iodoform gauze during the operation, and had subsequently been closed with catgut sutures, so that peritonitis had not followed. Furthermore, through the carelessness of an assistant, who had exerted undue traction on the elastic ligature, by means of which preliminary compression of the pedicle had been effected, it had slipped, and a very copious hæmorrhage from the large renal vessels had occurred. This had been controlled by suitable forceps, and several strong silk ligatures had been applied. Recovery had taken place without any disturbance, the wound being left open and packed with iodoform gauze. An intercurrent bronchitis had caused some rise of temperature for several weeks. The urine still contained a little pus and vesical epithelium and some albumin; it was light in color, and there was some suspicion that the remaining kidney was not entirely healthy. Still, the patient's condition had been materially improved, and, above all, the pain had been relieved. This was the second case in which, from urgent indications, he had removed one kidney while the other was not sound. The other patient was very comfortable, being placed under favorable hygienic condition in a mild European climate; still, he had occasional attacks of pyelitis. From his experience in these two cases, the speaker was inclined to conclude that, when urgent symptoms were present, the extirpation of one kidney was not absolutely contra-indicated by a diseased condition of the other.

Renal Calculus removed from a Pyonephrotic Kidney.—Dr. Lange showed a calculus that lacked only fifteen grains of weighing an ounce, which he had removed from a lady fifty-three years of age, who had suffered from pyonephrosis. The presence of the stone had not been suspected, and only a small portion of it could be felt when the pelvis of the kidney had been opened, the rest being firmly encysted, so that it had been necessary to dig it out with the aid of an elevator, a sharp spoon, and a forceps; as in a similar case in which the speaker had operated, the calculus had a number of irregular projections, which had been so firmly imbedded in the calices that it had been by no means easy to dislodge it. As soon as the stone had been removed a fresh quantity of pus had escaped, which had probably been shut in by the calculus. As the operation had been performed only five days before, it was impossible to say what would be the fate of the patient, although she was then in very good condition. It was an interesting fact that in the previous history of the case there had been no symptoms pointing to renal calculus, and it had been only three weeks before, after a fall, that the patient had begun to complain of pain in the affected side and general disturbance. The pyonephrotic tumor had then been quite large, and had probably existed for a long time previously as a hydronephrosis. A slight pain in the right lumbar region, which the patient had noticed during the past six years, must be attributed to disease of the kidney. The speaker had observed several cases in which renal calculus had produced no pathognomonic symptoms; if the concretion was firmly imbedded in the calices, so as to remain stationary, neither hæmorrhage nor great pain would be present.

Supra-pubic Lithotomy for Vesical Calculi and Hypertrophied Middle Lobe of the Prostate.—Dr. Lange also presented these specimens, which he had removed from a man upward of sixty years of age; the patient had suffered very severely for several years, and had been treated by the speaker about six years before, without obtaining much relief. Cystotomy had been proposed at that time, but it had been declined. On opening the bladder, both calculi had been found to be lodged in a deep diverticulum on the right side near the entrance of the urethra; one of them had been long and rounded, resembling one of the irregular processes of the renal calculus previously exhibited, so that it was possible that the stone might have descended from the kidney. Finding that the middle lobe of the prostate was considerably enlarged, Dr. Lange had seized it with a volsella, encircled it with a galvano-caustic snare, and removed it without much difficulty, the hæmorrhage being slight. The wound in the bladder had been kept open, in order to allow of effective local treatment. The patient's recovery had been retarded by a severe and protracted bronchitis; at the end of two months the wound was entirely healed, and he was then able to pass a full stream of urine, instead of being obliged to use a catheter, as he had done for years. The urine was nearly normal. The patient's face had entirely lost that characteristic anxious, nervous expression so common in those suffering from painful chronic affections of the bladder.

(To be concluded.)

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(Continued from page 694, vol. xliv.)

A Contribution to the Pathology and Treatment of the Respiratory Vaso-motor Neuroses.—A paper with this title was read by Dr. John N. Mackenzie. [See p. 231.]

Dr. Daly: A number of years have passed—five, I believe—since I had the honor of first pointing out to the profession the pathological relations between nasal disorders and hay asthma, and, although I have not published anything lately upon the subject, I have a number of useful clinical notes that when offered to the profession will go far to uphold the accuracy and merit of what I first brought to your notice at our congress in New York in 1881. I should like to add this remark here: that my subsequent and rather extensive experience has more than borne out the correctness of my original observations. I have purposely kept silent upon this subject these five years, much to the surprise and, possibly, the disappointment of my friends, who looked for other papers to follow the one which first brought my original observations to the attention of the profession through our congress; but I had furnished the stimulus, so to speak, to others, and I preferred to have the accuracy of what I had observed and pointed out to the medical profession put under the crucial test by other and abler men. I was naturally pleased to find that the subsequent observations of my colleagues, who had devoted themselves to the investigation of the heretofore enigmatical cause of hay asthma, were confirmatory of my views. I was especially pleased, nay, proud, that among these distinguished, painstaking, and labor-loving observers were Dr. Roe, of Rochester, Dr. Hack, of Freiberg, Professor Harrison Allen, of the University of Pennsylvania, Dr. Mackenzie, of Baltimore—the talented author of the paper under discussion—Dr. Sajous, of Philadelphia, Dr. Bosworth, of New York, and many others—all of whom have been kind enough to accord to me their support as to the accuracy of my original observations.

You will pardon me, I trust, if I indulge the belief that this work, these investigations and observations of hay asthma, promises to be of a higher practical value to the profession than any other measure accomplished in laryngology in recent years. With such ability as is now brought to bear upon this subject, not to speak of the others who will cast their observations upon this line of study, there must be valuable results. As the matter now stands, I am proud, very proud, to say that, before I had the honor to point out the existence of local nasal disease in a large proportion of cases of hay asthma, we temporized with our patients by sending them to expensive places of immunity. We now cure our patients, and, if they go away, we let them go as healthful tourists in search of pleasure, and not as invalids to circumscribed geographical limits—exiles, so to speak, and weeping exiles at that.

I therefore, after these five years' observation of what I then first pointed out, again ask the pertinent question, as I did then, "whether we are warranted in believing any case of hay asthma purely a neurosis without *first* eliminating the possible causation due to local structural or functional disease in the naso-pharynx." I would, therefore, most earnestly insist that all cases of this kind be subjected to a most careful inspection of the naso-pharynx and nasal chambers throughout, and if any abnormity is found, that it receive proper local treatment. Look well to the local treatment, gentlemen. Let not constitutional measures be neglected; but they should receive attention AFTER fruitless search for local disease, organic or functional. If this is done, you will cure your patients more frequently than by any other method.

Dr. Morgan: I have nothing to add to the physiological and pathological features of vaso-motor neuroses of the respiratory tract as elucidated by Dr. Mackenzie. I have given much reflection, however, during the past year to a point which, if properly developed, may in the near future contribute something toward solving at least a few of the mooted questions concerning the ætiology and pathology of so-called hay fever. I refer to anosmia as a factor in preventing the development of hay fever and allied affections. Has any member of this association met with a patient suffering with an essential anosmia who was the victim of hay fever?

I have interrogated many of my colleagues whose opportunities for observation upon this subject were ample, and the reply has invariably been, that they never saw an individual with permanent loss of smell suffer from hay fever. While I do not now venture to assert absolutely that hay fever has never occurred in an anosmic person, I certainly deem the question worthy of careful consideration and future clinical observation. It is a well-known fact that a few at least of the hay-fever patients successfully treated with the galvano-cautery have experienced partial loss or impairment of the sense of smell, and this occurrence has been unjustly urged by some against this method.

How many of those thus cured of hay fever were cured at the expense of olfactory acuteness is what I should like to ascertain, for it bears directly on the question of the prophylactic relation of anosmia to hay fever. I am aware that it is not considered necessary to invade with the galvano-cautery those portions of the nares supplied by the olfactory nerves in order to cure hay fever; nevertheless, it occasionally happens.

My experience with the galvano-cautery in treating hay fever has not been nearly so favorable as that reported by some of my colleagues. My cures have been few, although the popular methods, local and systemic, were pursued in all their details, and some of the patients were good subjects for treatment.

I despair of curing eighty per cent., as some profess to have done, and, as this is a matter in which every laryngologist is deeply interested, I would ask some of my friends, especially Dr. Sajous, to state his experience in the past, and his present opinion, of the treatment of suitable cases of hay fever by means of the galvano-cautery. I can hardly believe that the cause of hay fever is limited to the nasal passages in eighty per cent. of those affected, and therefore do not think any treatment of a local nature, and directed solely to the nares, can afford any such results.

After all, what is urgently required for the satisfactory solution of this perplexing hay-fever matter, and for the cure of this malady, is, more facts, practical observations, devoid of theory and speculation.

Dr. Sajous: In answer to Dr. Morgan's question, I should expect that loss of smell would be accompanied by lessened sensibility of the mucous membranes, both the power of conducting olfactory impressions, and ordinary tactile sensation, being reduced. If the theory of hyperæsthesia of the mucous membranes over the turbinate bones as the immediate cause of hay fever is accepted, this might be an important point. With regard to the galvano-cautery in the treatment of this disease, I am glad of this opportunity to present the results of my experience. In the earlier part of my experience with this method it was fraught with excellent results—success, I may say, being universal. Last year, however, it was not so good. Whether this was due to improper treatment, to the intensity of the disorder, or to other causes, I do not know; but the results were not so satisfactory as those of preceding years. It was not from want of attention, for I had given the unsuccessful cases the most devoted care. I followed up the treatment from day to day, and I can assure you that nothing was neglected. After attention to local conditions, eradicating hypertrophies, removing polypi, etc., and giving my patients the benefit of all the suggestions so far made by writers in the same field, including cauterization of sensitive spots and even beyond, I do not think that my results could be taken as higher than forty-five per cent. of cures. All were benefited, some decidedly so, but permanent relief resulted only in the proportion mentioned. In one case, which was reported as successful and which was treated two years ago, the patient escaped entirely the succeeding years, but had a mild attack last year. In my work upon hay fever I expressed the opinion that this case had been absolutely cured. Some of my patients, however, have escaped subsequent attacks, and have had no symptoms whatever. One, sent to me by Dr. Massey, of West Chester, who was treated in 1881 by application of acetic acid, has had no return since. I can say confidently, however, that the so-called "rose-cold" cases respond with more certainty to the treatment by cautery and acids, and that I yet consider them as curable in the great majority of cases.

Dr. Seiler: Since Dr. Morgan has asked the question as to the results of treatment of hay fever with the galvano cautery, I may say a few words upon this subject. I am not inclined to be enthusiastic upon any subject, and certainly not upon this method of treating hay fever. At the same time, I think that the explanation of some of the failures in obtaining a good result may be looked for in the suggestion thrown out by Dr Mackenzie in his paper; it is not always the case that the irritation is situated in the nasal chambers. It may be in the pharynx, or in the naso-pharynx, larynx, or bronchi. Therefore we should carry our examination a little farther than the nose, and, if the case should not yield to local treatment, we should look farther back. A patient came to me two years ago with the statement that he had been treated for hay fever with applications of glacial acetic acid, the result being that he had been free from hay fever, but had suffered all winter with asthma. On examination, I found a large posterior hypertrophy which I removed; during the last two summers he has had no hay fever and in winter no asthma. Here the cause of the reflex irritation was not in the nose at all, but in the naso-pharynx. In my experience the irritation is situated in the nose in about 60 per cent., and of these, by the use of the galvano-cautery, about 75 per cent. have been entirely relieved, and 25 per cent. only partially relieved, so that the attacks still recur, although milder than they were before. In one case a gentleman, an officer in the army, stationed out on the plains, suffered with hay fever so severely that he had to be sent home for treatment. I applied the galvano-cautery very carefully. The next year he was affected, though not nearly so much as the preceding year. The third year brought him back again, and I found some spots of special tenderness in the nasal chambers which I touched, and since then he has been entirely free, although he returned to the plains, where he was brought into contact with irritating dust. I think that the explanation of the failure is often that the cause of the irritation is not in the nasal cavity, but somewhere else, as pointed out by Dr. Mackenzie.

Some of these cases are very curious. Recently I saw a little girl suffering with laryngeal chorea; the barking occurred every fifteen minutes, at night as well as in the day-time, annoying her friends, and worrying her parents nearly to distraction. I examined her nose and pharynx carefully, but could detect nothing. I said that I did not know the cause, but I would treat it anyhow with the battery. There appeared to be a slight hypertrophy upon the lower part of the right inferior turbinated bone. I applied the galvano-cautery, and the cough ceased at once. That was two weeks ago, and her mother said to-day that she had not coughed since.

Dr. Bosworth: As regards the position taken by the author, I must say that I think that the term reflex is made to cover a large amount of ignorance. What do we mean by a reflex disorder? I think that the case just reported by Dr. Seiler is by no means uncommon. We need not look for a reflex apparatus in order to account for the symptoms. There is direct continuity of surface from the nasal chambers to the bronchial tubes, and there is a relation between the blood-vessels of the larynx and those of the nose, so that a close sympathy exists between them, and anything producing congestion in one place may induce congestion in the other. This is due to the close relation of the structure of the mucous membrane, and is not reflex, whatever reflex may mean. There is a direct connection also between the mucous membrane of the nasal chambers and the lungs, so that nasal obstruction may give rise to asthma. The mucous membrane in this situation also has an important protective influence, and by its hygroscopic qualities modifies the air which goes to the lungs. I believe that the passage of the air over these moist surfaces is necessary for the normal performance of respiration. When this surface is destroyed, the air in passing to the lungs is not modified; and congestions and inflammation of the bronchial mucous membrane result. This is not theory; it is based upon clinical observations from day to day.

A single application of chromic acid to the nasal chambers may relieve cough or difficulty of breathing at once. I say this not from a single observation, but from numberless observations. It is a question with me whether or not, in the future, I shall drop this term reflex, and acknowledge a direct symptomatic relation only in the explanation of these phenomena.

Dr. Langmaid: I have been much interested in the discussion, but must say that I can not accept Dr. Bosworth's explanation.

Dr. Shurly: I agree with Dr. Langmaid. It is indeed a startling theory which gives such predominance to the locality of the nose. The vaso-motor nerves regulating the blood supply, of course, have a great deal to do with the blood circulation in all parts of the body. We might go still further upon the theory just advanced, and conclude that disturbances of circulation in the turbinated bodies might cause other of the diseases of the lungs, as well as simple bronchial catarrh. It is undoubtedly a fact, as Dr. Bosworth has said, that there *are* cases of bronchial irritation and bronchial inflammation which are the result of primary disease in the nasal passages. But I believe that such cases are more exceptional than common. The idea that diseases of the lungs in general are, or may be, products of local conditions of the nasal passages solely, seems to me preposterous, when we so often find various diseases of the lungs or larynx even without notable abnormal changes in the nasal passages. Therefore, it would seem almost too much to expect of us to accept at the present time, in the face of our knowledge concerning the nervous connection and influence between the various parts of the body, the notion that specific diseases or inflammations of remote organs are the result or effect of local disease of the nasal passages. Now, in Dr. Seiler's case, who can tell whether or not an application of the actual cautery to the back of the neck, instead of the nasal mucous membrane, would have been followed by the same result? Who can adequately explain the action of a blister in relieving pain or internal pathological processes? Everybody must have seen cases frequently in which counter-irritation promptly relieved pain or grave symptoms of disease, either temporarily or permanently. I therefore can not understand Dr. Bosworth's aversion to the admission of a reflex agency.

Dr. Mackenzie: The points raised in the discussion are fully explained, it seems to me, in the paper I have just read, and in various other contributions, but more especially in my review of the subject in the "American Journal of the Medical Sciences" for last October.

Absolute anosmia would certainly prevent the operation of an exciting cause acting through the olfactory sense; but it should be remembered that the latter is only one, and that an inconstant one, of a host of avenues through which the sympathetic may be affected. Indeed, if the views expressed in my paper are accepted, it is scarcely conceivable that absence of the sense of smell could afford immunity against the disease.

I am thoroughly impressed with the importance of attention to the nasal cavities and other portions of the air tract, and, should local respiratory disease be the primary cause of the affection, its removal, with the consequent physiological rest of the centers, may be alone sufficient to secure prolonged immunity from the disease; but I can not too forcibly insist upon the necessity of strict attention to the nervous apparatus, and that not only during the period or paroxysm, but continuously throughout the interregnum of so-called immunity. In carrying out any form of treatment, I can not too often insist upon the separation of the phenomena which are the natural concomitants of the local pathological process and those which are secondary and dependent upon more central disturbance.

I have already sufficiently indicated the fallacies involved in the theory which attributes periodic vaso-motor coryza and allied affections to simple nasal obstruction. In regard to Dr. Bosworth's recent defense of this proposition I must say, if he will allow me to differ with him, that I deny the existence of the physiological ideas which he advances; while, even admitting their existence, they are thoroughly inadequate to account for the most common phases of the disorder. This view, therefore, violates the two most essential criteria of a logical hypothesis—the facts do not exist, and the assumption is inadequate to even partially explain the phenomena. To take one of a multitude of illustrations: how could rarefaction of air in the bronchial tubes, the result of nasal obstruction, account for the sudden and immediate production of a paroxysm of asthma from the simple contact of a probe with the nasal mucous membrane—a result which I have several times observed? If there is one physiological fact which is established beyond the possibility of doubt, it is the fact of reflex action, and we should be going far out of our way in forsaking this simple and rational explanation for the skepticism and speculations of my friend Dr. Bosworth.

In regard to prognosis, I can only repeat what I said elsewhere: that it will depend not only upon the nature of the predisposing and exciting causes of the affection and the facility with which they may be removed, but also upon the amount of structural injury done to the respiratory apparatus, to the central nervous system, and to other parts of the body included in the arc of the reflex vaso-motor disturbance. I have found children much more amenable to treatment than adults, although the severest types of the disease often occur at an early period of life, and in the management of this class of cases I have been, as a rule, successful. Each case must be studied on its individual merits; we can not, therefore, lay down any definite rule to be followed in all cases.

Book Notices.

Manual of Operative Surgery. By Joseph D. Bryant, M. D., Professor of Anatomy and Clinical Surgery, and Associate Professor of Orthopædic Surgery, Bellevue Hospital Medical College; Visiting Surgeon to Bellevue Hospital, and Consulting Surgeon to the New York Lunatic Asylum, etc. With Seven Hundred and Ninety-three Illustrations. New York: D. Appleton & Company, 1887. Pp. xxiv–530. [Price, $5.]

Readers who remember the appearance of this work as published in 1884, and who, in spite of the dark and fateful character of its illustrations, found themselves attracted to its repeated perusal by the practical and vigorous style of its reading matter, will congratulate its author on the present issue.

It has evidently had a careful revision, and will repay perusal and study by any one who wishes to refresh his memory on obscure points, or compare methods of operative work.

The subject of antisepsis is gone over in a very few pages, but its treatment is fairly thorough, though we are surprised that two such well-known substances as naphthalin and hydronaphthol are not even mentioned, particularly as the latter affords the best known basis for irrigation during operations, and baths for instruments, as it can be used with impunity on the most sensitive tissues, and without reference to steel or other instruments coming into contact with it. The sections having reference to plastic operations, ligation of vessels, and the operative treatment of hernia are particularly good.

The author has brought his book fully up to the times in discussing the surgery of the abdominal cavity and its contents, as is well shown in the chapter upon "Operations on Hollow Viscera in Contact with Serous Surfaces."

Altogether the work compares very favorably with any of the later books on purely operative surgery, and will repay careful study.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

G. Fock, Leipsic.—L. Fischer, "Ueb. d. Behandlungsmethoden d. Prostatitis, mit bes. Berücksichtigung d. Prostata-hypertrophie." (1*M.* 50.)

P. Hanstein, Bonn.—H. Schoppe, "Der Brechdurchfall d. Säuglinge u. seine Behandlung." (1*M.* 50.)

Lipsius & Tischer, Kiel.—J. O. Johannsen, "Beitrag zur path. Anat. u. Histol. d. Magengeschwürs." (1*M.* 20.)

J. C. B. Mohr, Freiburg i. B.—E. Stärker, "Die Phosphorbehandlung d. Rhachitis." (1*M.*)

H. Pohle, Jena.—S. Kajan, "Beitrag zur Therap. d. puerperalen Sepsis." (0*M.* 75.) —— C. Reinhardt, "Zwei Fälle von Pyosalpinx." (0*M.* 65.)

J. Springer, Berlin.—B. Fischer, "Die neuen Arzneimittel." (5*M.*)

Urban & Schwarzenberg, Vienna.—H. Eichhorst, "Handbuch d. spez. Pathol. u. Therap." 3d ed., 2d vol. (11*M.*)

Espasa, Barcelona.—Cardenal, "Manual Práctico de Cirugía Antiséptica."

Biblioteca de la "Revista Médica de Sevilla."—J. Solis-Cohen, "El Crup en sus Relaciones con la Traqueotomía." Transl. and ed. by R. de la Sita y Lastra. —— B. Roberts, "Uso del Alcohol en el Tratamiento de la Pulmonía." (2 *pes.* 50.) —— Bourneville y Bricon, "Manual de las Inyecciones Subcutáneas." (2 *pes.* 50.)

BOOKS AND PAMPHLETS RECEIVED.

Report of the Surgeon-General of the Navy for the Year 1886.

Nineteenth Annual Report of the New York Orthopædic Dispensary and Hospital (for Children with Spine and Hip Diseases and other Deformities) for the Year ending September 30, 1886.

A Contribution to the History of Hydramnios. By Robert T. Wilson, M. D., of Baltimore, Md. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

The Use of Antiseptics in Obstetric Practice. By William L. Richardson, M. D., Professor of Obstetrics, Harvard University. [Reprinted from the "Boston Medical and Surgical Journal."]

The Therapeutical Drinking of Hot Water; its Origin and Use. Pp. 3 to 9. Origin of the Salisbury Plans of Diet in Chronic Diseases, with Directions for preparing Beef Pulp. By Ephraim Cutler, M. D., New York. Pp. 3 to 34.

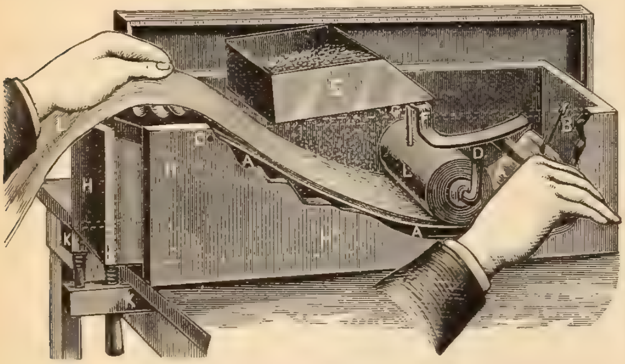
On Aphasia; being a Contribution to the Subject of the Dissolution of Speech from Cerebral Disease. By James Ross, M. D., LL. D., Aberd., Fellow of the Royal College of Physicians of London, etc. London: J. & A. Churchill, 1887. Pp. 128.

New Inventions, etc.

A NEW APPARATUS FOR PREPARING DRY GYPSUM BANDAGES.

At a meeting of the Philadelphia County Medical Society, held February 9, 1887, Dr. H. Augustus Wilson read the following paper:

Rolling the dry plaster-of-Paris bandages by hand, the method usually in use, is unsatisfactory, and under the most favorable circumstances a dirty process. It was to avoid the inconveniences and irregularities of that method that I devised this apparatus, which I have had made by A. G. Gefvert, the orthopædic apparatus manufacturer. It consists of an ordinary box-bandage roller, with the addition of the following: A movable bottom, A A A, held in contact with the outermost layer of the bandage, as it is rolled, by a rubber band B, and at the other end by a hinge-joint, C. Upon this movable bottom, and just in front of the crank, is a flood-gate or distributor, not shown in the illustration, which equalizes the distribution of the plaster and presses it into the bandage from above, while the movable bottom prevents the gypsum from passing through the meshes. The proper tension is applied by two rubber bands.



A hopper, E, is provided with an arm, F, bent in such a manner as to be raised by the crank at each half turn, and upon being released it falls, throwing down a quantity of the powder upon the bandage in front of the distributor. A compartment, H H H, occupying the otherwise waste space under the movable bottom, is utilized as a receptacle in which may be kept the gypsum when the apparatus is not in use. A scoop accompanies the apparatus with which to take gypsum from the compartment and fill the hopper. The entire affair can be securely held to a table by a clamp, K. Elastic bands are used for springs, because they are inexpensive and can be very readily replaced when worn out. The method of using is, first to pass the end of the bandage to be rolled over the movable bottom, under the distributor, and attach to the crank. The hopper is now to be placed in position, and, by means of the scoop, filled with a sufficient quantity of gypsum. While the crank is turned with the right hand, the left guides the bandage, which may be watched, over the hopper, as it is being rolled. The bent arm of the hopper is so arranged that the fall of the hopper may be sudden or gradual, and upon this depends the quantity of powder discharged When the crank is turned very slowly the hopper is raised slowly and descends with the motion of the crank, and scarcely any gypsum is precipitated, and, of course, the converse follows. This being clearly understood, a very slight experience will enable any one to control the action of the hopper with the crank. When a bandage is finished, the crank is withdrawn sufficiently to disengage it from the bent arm of the hopper, and while the left hand holds the bandage a quick reverse turn of the crank enables it to be easily withdrawn. The gypsum remaining on the movable bottom is now discharged into the compartment by placing the hopper to one side, detaching the spring, B, and raising that end. The apparatus is applicable to the rolling of the ordinary surgical bandage by detaching the rubber spring, B, thus allowing the movable bottom to drop out of the way. It prepares the dry gypsum bandages evenly and quickly. It is very simple in its construction and action. It can not get out of order, except by the breaking of the rubber bands. It is inexpensive. Possessing these advantages, I hope it will be of service and facilitate the preparation of the dry gypsum bandages in the hands of other physicians as it undoubtedly has in mine.

Miscellany.

The Medical Maid.—The "Glasgow Medical Journal" reprints the following verses, by Dr. John Smith, from a recent Edinburgh publication entitled "Lays of the Colleges":

Air—"Green grow the Rashes, O!"

As I gaed owre tae meet my class,
A winsome quean cam' after me.
Quo' she, "Sir, wad ye gi'e a lass
Prelections on Anatomy?"
I speired was there nae wark at hame
Micht suit her mair becomingly,
For delvin' in a corpse's wame
Was neither sweet nor womanly.

But deil may care, she said her sphere
Was not domestic drudgery;
An' threapit that her mission here
Was medicine an' surgery;
Nae langer she'd her cawnle hide,
Anaeth a bushel, scomfishin',
Since woman noo wi' rapid stride
Her function was accomplishin'.

Afore her powers o' speech I fell,
She fairly got command o' me,
I felt I wasna just mysel'
An' she'd the upper hand o' me.
Wi' smile sae sweet, an' words sae fair,
She made I watna what o' me.
Says I, "My woman, fleech nae mair;
I'll drill ye in Anatomy."

I thocht I did but what was richt,
Tae treat her wae urbanity;
My state, hooever, since that nicht
Has bordered on insanity.

I'm clean dumfoundered what to say,
What pairts to gi'e, whaur she's to be;
For decency I think I'll ha'e
Her demonstrations privately.

My best *cadaver* she at ance
Bespoke in its integrity;
It was a male: I couldna but
Admire her intrepidity;
When I suggested something mair
Consistent wi' propriety,
At ance she said she wadna be
Restrickit in variety.

Frae day till day I've thocht the jade
Wad drive the senses oot o' me,
Wi' speirin' whiles aboot sic things
As did pit me aboot a wee;
An' aye she'd houp I'd not forget,
Wi' want o' generosity,
'Twas science set her there, and not
A morbid curiosity.

My words oot o' respect for her
I've trimmed wi' ingenuity;
At ance she said my language was
Devoid o' perspicuity.
She disna gi'e a single flea
For feminine timidity,
Demandin' baith tae hear an' see
The plain facts wi' lucidity.

It's no mysel' alane she skeers
Frae speakin' wi' obscurity,
Ilk bashfu' lecturer she hears,
Taks refuge in obscurity;
Oor houdies a' she pits till shame,
For wi' superiority,
It speaks aboot the female frame
On sic direct authority.

Ilk jurisprudence lecturer
Complains o' his predicament,
He canna thole tae speak till her
On horrors that suld mak' her faint.
Its kittle no tae feel confused,
Or tell her wi' facility,
O' things that micht mak' her amazed,
If that's a possibility.

The surgical professors say
It wad be sae incongruous
O' certain ills to speak, that they
Maun modify their syllabus.
A class o' matrons they micht face,
O' strict respectability,
But frisky kimmers in the place
Tells on their equanimity.

The folk outside bid us gi'e in
Syn' we're in the minority,
They haud oor case no worth a prin,
An' her's tae hae priority.
I was a gowk tae tak her in,
For now she'll no gang oot again,
Man's first mishap cam' by a lass—
My days hae been cut short by ane.

The Surgery of the Pancreas.—Dr. Senn, in the January number of the "American Journal of the Medical Sciences," concludes his exhaustive study of the surgery of the pancreas, based upon experiments and clinical researches. He formulates his conclusions as follows: 1. Restoration of the continuity of the pancreatic duct does not take place after complete section of the pancreas. 2. Complete extirpation of the pancreas is invariably followed by death, produced either by traumatism or gangrene of the duodenum. 3. Partial excision of the pancreas for injury or disease is a feasible and justifiable surgical procedure. 4. Complete obstruction of the pancreatic duct, uncomplicated by pathological conditions of the parenchyma of the organ, never results in the formation of a cyst. 5. In simple obstruction of the pancreatic duct, the pancreatic juice is removed by absorption. 6. General atrophy of the pancreas from nutritive or degenerative changes of the secreting structure is not incompatible with health. 7. Physiological detachment of any portion of the pancreas is invariably followed by progressive degeneration and atrophy of the glandular tissue. 8. Extravasation of fresh normal pancreatic juice into the peritoneal cavity does not produce peritonitis, but is promptly removed by absorption. 9. Crushed or lacerated pancreatic tissue is removed by absorption, provided the site of operation remains aseptic. 10. Complete division of the pancreas by elastic constriction is never followed by restoration of interrupted anatomical continuities. 11. Limited detachment of the mesentery from the duodenum, as required in operations upon the pancreas, is not followed by gangrene of the bowel. 12. In all operations upon the head of the pancreas, the physiological connection of the peripheral portion of the gland should be maintained by preserving the integrity of the main pancreatic duct. 13. Partial excision of the splenic portion of the pancreas is indicated in cases of circumscribed abscess and malignant tumors, in all cases where the pathological product can be removed completely without danger of compromising pancreatic digestion or inflicting additional injury upon important adjacent organs. 14. Ligation of the pancreas at the point or points of section should precede extirpation as a prophylactic measure against troublesome hæmorrhage and extravasation of pancreatic juice into the peritoneal cavity. 15. The formation of an external pancreatic fistula by abdominal section is indicated in the treatment of cysts, abscesses, gangrene, and hæmorrhage of the pancreas due to local causes. 16. Abdominal section and lumbar drainage are indicated in cases of abscess or gangrene of the pancreas where it is found impossible to establish an anterior abdominal fistula. 17. Thorough drainage is indicated in cases of abscess and gangrene of the pancreas, with diffuse burrowing of pus in the retroperitoneal space. 18. Removal of an impacted pancreatic calculus in the duodenal extremity of the duct of Wirsung, by taxis or incision and extraction, should be practiced in all cases where the common bile-duct is compressed or obstructed by the calculus and death is threatened by cholæmia. 19. In such cases the principal source of danger, extravasation of bile into the peritoneal cavity, should be avoided by preliminary aspiration of the dilated bile-ducts, accurate closure of the visceral wound with fine silk sutures, and absolute physiological rest of the organs of digestion during the time required in the healing of the visceral wound.

Harvard Medical School.—At a meeting of the overseers of Harvard University, held on Thursday of last week, it was voted to concur with the president and fellows in appointing Dr. John S. Billings lecturer on the history of medicine for the current academic year.

The Health of Boston.—The number of cases and deaths from infectious diseases reported to the Board of Health for the week ending Saturday, February 19th, were as follows: Diphtheria, 17 cases and 5 deaths; scarlet fever, 18 cases and 1 death; typhoid fever, 9 cases and 3 deaths; measles, 66 cases and 3 deaths. There were also 38 deaths from consumption, 12 from pneumonia, 1 from whooping-cough, 14 from heart disease, 8 from bronchitis, and 6 from marasmus. The total number of deaths reported was 189, an increase of 22 over the corresponding week last year.

A New Disinfectant.—Carbolic saponate is the name given to a potassium soap containing from 5 to 10 per cent. of carbolic acid. It is recommended as an excellent means for disinfecting furniture, wooden articles, linen, water-closets, night utensils, etc., and especially for washing the hands before and after operations, or after contact with infectious patients. By its use in the latter operation it is said that the skin is rendered smooth and soft, and no irritation whatever is produced. According to Dr. Stroganoff, of Odessa, however, carbolic saponate possesses slightly irritating properties.—*Brit. and Colon. Druggist.*

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending February 17th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending January 29, 1887, corresponded to an annual death rate of 21·1 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest death rate was recorded in Derby, viz., 11·1, and the highest in Bristol, viz., 30·6 in a thousand.

London.—There were 1,585 deaths registered in London during the week, including 54 from measles, 14 from scarlet fever, 22 from diphtheria, 31 from whooping-cough, 1 from typhus fever, 9 from enteric fever, 1 from an undefined form of continued fever, and 9 from diarrhœa and dysentery. There were 432 deaths from diseases of the respiratory organs. Different forms of violence caused 67 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 19·6 in a thousand.

Ireland.—The average annual death rate represented by the deaths registered during the week ending January 29th, in the sixteen principal town districts of Ireland, was 27·4 in a thousand of population. The lowest rate was recorded at Armagh, viz., 5·2 in a thousand, and the highest in Sligo, 86·6 in a thousand.

Dublin.—There were 191 deaths registered during the week ending January 29th, including 15 from zymotic diseases. In thirty-five instances the cause of death was uncertified, there having been no medical attendant during the last illness. The deaths from all causes corresponded to an annual death rate of 27·5 in a thousand.

Germany.—The deaths registered in fifty-two cities in Germany, having an aggregate population of 6,523,266, during the week ending January 15, 1887, corresponded to an annual death rate of 21·4 in a thousand. The lowest rate was recorded in Darmstadt, viz., 10·9 in a thousand, and the highest in Altona, viz., 32·9 in a thousand.

Calcutta.—Five hundred and ninety-two deaths were registered during the two weeks ending December 28th, including 112 from cholera, 167 from fevers, 78 from bowel complaints, and 50 from tetanus.

Guayaquil.—Fifty-seven deaths were registered during the week ending January 20th, including 12 from yellow fever, 5 from small-pox, and 12 from enteric fever.

Havana.—The United States sanitary inspector reports for the month of January 490 deaths from all causes, including 6 from yellow fever, 7 from enteric fever, 4 from pernicious fever, 2 from diphtheria, and 2 from croup. During the week ending February 3d there were 6 cases of yellow fever, but no deaths from that disease.

Cairo, Egypt.—The United States consul-general, in his dispatch dated December 16th, concerning the inspection of Egyptian rags, states that, "as a sanitary measure, I think Egyptian rags should be closely scrutinized. The sources from which these rags are obtained are of the filthiest character. Though cholera does not now exist in Egypt, that terrible malady, small-pox, is always prevalent here. It now prevails largely throughout the country, and rags reeking with infection are sold in the markets, and, no doubt, they find their way to ports of the United States. These people care nothing for disease; they do not seem to fear infection or contamination, and, official sanitation being barely in its inception, a mere sham even where it is locally proclaimed, there is absolutely no protection against rags being sold to dealers directly from the bodies of those affected with this loathsome disease, and there can be no doubt that such poisonous rags find their way to the United States ports. I would, therefore, urgently present the necessity of strict measures regarding the perfect disinfection of Egyptian rags intended for shipment to the United States."

Nagasaki, Japan.—The United States consul, in his dispatch dated December 27, 1886, states that "the port of Nagasaki was officially declared free from Asiatic cholera November 6th. The epidemic of the present year in Nagasaki Ken, owing to the speedy and vigorous restrictive measures adopted by the Government, was not so severe as last year. In 1885, from August 13th to November 14th, practically the limits of the duration of the disease, there were 4,435 cases and 2,927 deaths. This year, from August 9th to November 6th, there were 2,384 cases and 1,551 deaths. While the character of the disease was as severe, and the percentage of deaths about the same as last year, being about 65 per cent., the number of persons attacked is less by over 2,000. At Takasima Colliery, on the Island of Takasima, near Nagasaki, the point at which last year the epidemic raged with great severity, of the 4,000 men employed in the mines, 1,500 were attacked and 800 died. As this was the third or fourth time that the island had been ravaged with cholera, the owners of the mines, the Mitsubishi Company, determined to try such preventive means as modern science could suggest. A complete sewerage system was formed. Heavy pumping arrangements were erected on the beach, for pumping sea-water to the highest point of the island, whence by an arrangement of drains and sluices it was gravitated back to the sea, flushing for three or four hours daily every drain among the dwelling-houses. An extensive fresh-water condensing apparatus was erected, turning out from 7,000 to 8,000 gallons of water a day. The wells on the island were closed, and water from the main-land only allowed to be imported for purposes of washing, etc. A strict system of food quarantine was instituted, and all food was supplied through the company. Three digesters, each of 800 gallons' capacity, were erected, beef killed under inspection being used to make soup, about 1,000 gallons a day being supplied to the miners. Beef was also served out in the rations. All shell-fish were prohibited, only deep-water fish, after inspection, being allowed to be landed or sold. No deleterious vegetables of any kind were permitted to be brought to the island, potatoes, beans, and certain harmless native vegetables being the only ones allowed for consumption. The success of the system adopted has been amply demonstrated by the fact that Takasima has been the only place in Nagasaki Ken untouched by cholera during this year's epidemic. The treatment used by Dr. Nakamura, the chief surgeon of the mines, was remarkably successful. The proportion of deaths to cases in the city of Nagasaki was about 90 per cent. In Takasima it was only about 50 per cent. Dr. Nakamura depended greatly on spirits of camphor and morphine in the initial stages of the disease (even to the subcutaneous injections in severe cases), and on morphine and atropine in the collapsed stage, in this stage the morphine and atropine being injected. He reports an interesting case, which occurred this year, on the neighboring island of Nakenosima, in which a cholera patient was kept alive and restored to health who had been for forty-eight hours without a perceptible pulse. He is emphatic in requiring abstention from liquors by the patient in the fever stage of the disease. While the cholera experience of 1885 has not been repeated in Nagasaki and vicinity in 1886, the epidemic has raged with virulence in other parts of the empire of Japan. In 1885 there were altogether 11,927 cases and 7,152 deaths, the proportion of mortality being about 60 per cent. This year (1886) there were 154,373 cases and 101,695 deaths, a proportion of about 66 per cent. We may say that the cholera in Japan during the past year has spread widely, has been exceptionally severe, and the percentage of deaths enormous. The mortality is appalling when we consider that the disease has been combated with unusual activity, and with all the resources of modern science."

Maracaibo.—The United States consul, in his dispatch dated January 23d, states that experiments in inoculation as a preventive of yellow fever are being conducted on the Colombian frontier, in the city of Cucuta, with good results.

Paris.—Eleven hundred and twenty-eight deaths were registered during the week ending January 22d, including 3 from small-pox, 11 from whooping-cough, 27 from enteric fever, 3 from scarlet fever, and 23 from diphtheria.

Marseilles.—One thousand and seventy-nine deaths were registered during the month ending January 31st, including 14 from small-pox, 29 from enteric fever, 64 from diphtheria, and 3 from measles.

Palermo.—One hundred and twenty-seven deaths were registered during the week ending January 22d, including 2 from typhus fever, 1 from enteric fever, 5 from diphtheria, and 4 from other fevers.

Leghorn.—Seventy deaths were registered during the week ending January 30th, including 1 from small-pox.

Bristol.—One hundred and eleven deaths were registered during the week ending January 22d, including 1 from scarlet fever. Whooping-cough, measles, and scarlet fever prevailed.

Belfast.—One hundred deaths were registered during the week ending January 22d, including 2 from scarlet fever.

Toronto.—Thirty-one deaths were registered during the week ending February 5th, including 4 from diphtheria.

Gibraltar.—Ten deaths were registered during the week ending January 16th, including 1 from diphtheria. One patient with small-pox was landed from a steamer from abroad.

Genoa.—One hundred and forty-seven deaths were registered during the week ending January 22d, including 3 from small-pox and 3 from enteric fever.

Rome.—Two hundred and eighty-three deaths were registered during the two weeks ending December 13th, including 22 from small-pox, 5 from enteric fever, and 2 from diphtheria.

Leipsic.—Seventy-three deaths were registered during the week ending January 29th, including 2 from measles, 1 from scarlet fever, 6 from diphtheria, and 1 from dysentery.

Warsaw.—Two hundred and nineteen deaths were registered during the week ending January 22d, including 10 from small-pox.

Mayence.—Eighteen deaths were registered during the week ending January 22d, including 1 from typhus fever.

Munich.—One hundred and twenty-three deaths were registered during the week ending January 22d, including 1 from scarlet fever and 6 from diphtheria.

Bremen.—Forty-six deaths were registered during the week ending January 22d, including 1 from scarlet fever, 1 from diphtheria, 2 from whooping-cough, and 1 suicide.

Vera Cruz.—Twenty-five deaths were registered during the week ending January 27th, including 19 from diphtheria.

Guaymas.—Thirty-six deaths were registered during the month ending January 31st, including 16 from small-pox.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Estimated population.	Week ending—	Total deaths from all causes.	Annual rate of mortality in 1,000.
Calcutta	433,219	December 25.	287	34·5
Guayaquil	35,000	January 20.	57	84·9
Paris	2,260,045	January 22.	1,128	26·0
Palermo	250,000	January 22.	127	26·4
Rome	355,026	December 18.	138	20·2
Leghorn	101,172	January 30.	70	36·0
Bristol	223,695	January 22.	111	25·8
Belfast	224,822	January 22.	100	23·1
Toronto	120,000	February 5.	31	13·4
Gibraltar	23,731	January 16.	10	21·9
Genoa	179,483	January 22.	147	42·7
Leipsic	170,000	January 29.	73	22·3
Warsaw	431,572	January 22.	219	26·4
Mayence	65,701	January 22.	18	14·2
Munich	262,000	January 22.	123	24·4
Bremen	119,000	January 22.	46	20·0
Vera Cruz	23,800	January 27.	25	54·7
Mannheim	65,000	January 15.	13	10·4
Stuttgart	125,510	January 29.	36	14·9
Cadiz	65,028	January 22.	72	57·7
Laguayra	7,428	January 29.	9	63·1
Matamoras	12,000	January 29.	13	56·4
Acapulco	4,200	January 30.	3	37·0
Curaçoa	25,000	January 29.	8	16·6
Antigua	15,847	January 2.	11	36·1
Kingston, Canada	15,109	February 11.	2	6·8

The Therapeutic Value of Mountain-climbing.—Dr. L. Barkan, of Brooklyn, writes as follows: Although the strengthening and invigorating effect of exercise, and especially of mountain-climbing, is well recognized, yet it would seem not to be superfluous to examine a little more closely this most precious of remedies, which, by the relief which it gives from the cares of business, combined with residence in a healthful locality, active respiration of pure air, and drinking of pure water, exerts not only a transitory beneficial effect, but even, in most cases, leads to a permanent cure, and also tends to prevent disease. Among the most active of disinfectant agents belong a good soil and also, in my humble opinion, good air. The more thickly settled a place, the less potent for good are the hygienic influences of the soil and air; and the smaller the settlement, the more active, *ceteris paribus*, are these two factors; they attain their greatest efficacy in elevated regions.

According to Professors Senator and Fluegge, one volume of good sandy soil can render innocuous two hundred and fifty volumes of ordinary sewage; but as regards the disinfecting power of air we are still in the dark. I believe that the oxygen present in pure air is able, probably by means of combustion, to render more or less innocuous the disease germs received into the blood—that is, to act as a disinfectant. Perhaps the therapeutic efficacy of permanganate of potassium lies in the fact that it favors the reception of oxygen by the blood-corpuscles, while the toxic action of strychnine would seem, according to Rossbach, to be due to the fact that it retards this union of the blood-corpuscles with oxygen.

There are floating in the air numberless germs, many of them of a harmful nature, and it would seem possible that the injurious germs which, especially in large places, are received into the human organism, might be rendered innocuous by the oxygen of the air (and, perhaps, also by air-currents acting in a mechanical way), while in stagnant air—as, for example, in a badly ventilated apartment, where the exhalations from the lungs and skin are constantly accumulating—there is less disinfectant action because of the diminished quantity of oxygen. We seek to get rid as quickly as possible of the other excretory products while, strangely enough, the same amount of zeal in disposing of the exhalations—that is, the excretions—of the lungs and skin is comparatively seldom exhibited. And, indeed, thorough and effective ventilation of the living-room is not so readily obtained. As nature purifies the atmosphere partly in an electro-chemical way, by means of thunder-storms, and partly in a mechanical way, by means of high winds, so must we, upon occasion, purify the atmosphere of our dwellings by means of fumigation and the use of disinfectants, but especially by constant ventilation, and sometimes by the production of artificial currents of air. At whatever cost, the air must be thoroughly changed in every corner and crevice of the room. While serving in the Turco-Servian war, I kept the windows in almost every room in my hospital constantly open, even during the night; and I had the satisfaction of observing that, while in other hospitals small-pox and other contagious diseases prevailed, in my hospital they seemed to find no suitable soil for their further development, and, notwithstanding that, from want of room, I was often obliged to put patients suffering from small-pox, typhus, erysipelas, diphtheria, etc., together with other patients in the same ward, these diseases did not spread.

A favorite experiment of mine, and one from which I never saw any but favorable results, was to send patients suffering from grave diseases a distance of six miles to another and more roomy hospital. They were removed even in winter, when the weather was not excessively cold, but were, of course, well wrapped up, and every precaution was observed to prevent them from receiving any injury on the way.

It is well known that not every one exposed to a contagious disease acquires that disease; and may it not be that those escape entirely or suffer from a mild form of the disease who, after exposure, spend a considerable time in the open air? I leave out of consideration the fact that the danger of contagion depends also somewhat upon the position that the visitor occupies when at the sick-bed.

So much as to the value of pure air. It is of especial efficacy in elevated regions, and its good effects are the more evident the higher the climber ascends, and the more muscular effort he puts forth in the ascent. The best inhalation apparatus, baths, and medicaments are of but temporary value if no compensation is made for the loss of vitality and of muscular tone, especially that of the heart and vessels; if the blood stasis in the glands and other organs does not yield to an increased flow of blood in the arteries and veins; if the thinned blood does not become thicker and more rich in albumin; if the accumulating carbonic acid is not expelled by a more plentiful supply of oxygen; if the fat deposited in the body is not more rapidly oxidized; and if the kidneys are not made to act more efficiently. But all these effects are produced, according to Jacobi, Loomis, Voit, Oertel, and other authorities, more certainly and more generally by mountain-climbing than in any other way whatever. After several weeks spent in mountain excursions, the condition of the patient is radically changed for the better. There is an elasticity of the mental processes in place of the former hebetude; will, thought, and impulse seem to move on wings; the formerly dull senses are sharpened; the formerly half-closed eyes sparkle, and the flabby cheeks become fuller and rosy; the formerly prominent abdomen is reduced to more seemly dimensions, notwithstanding that food and drink are taken with greater relish, and the chest is expanded. These changes, it is true, are not without their inconveniences to the patient as regards his apparel, for his unmentionables are found to have become much too wide around the waist, while his coat, collar, and shirt are too small. The one who was before so heavy and dull now feels as elastic and springy as if the burden of earthly existence had been lifted from his shoulders, and, almost as in his childhood days, he goes running and springing along, and covers a distance of ten or twelve miles a day. He is no longer in the shape of a discontented and surly creature, a parody on man, but fits better in the ranks of other strong and happy beings; he is possessed of a new spirit, the pulse beats more strongly, and the tone of the entire circulatory system is better.

I will now instance a few cases showing the good results obtained by patients whom I have accompanied in various mountain tours in Europe and other parts of the world.

Case I.—J. B., forty years of age, weight 230 pounds. Circumference of the waist, 120 ctm.; of the chest, 116 ctm. The first walk caused him to gasp for breath, so that he was almost snorting. The tired heart, with its faint pulsations, seemed hardly adequate to the task imposed upon it, and the patient was forced to stop every three minutes. On the second day the breathing was a little more easy; instead of the snorting respirations, the breath came in quick panting jerks, as in pneumonia. He was obliged to rest every five minutes. The secretions were increased in amount and the torpid condition of the bowels was corrected. The distance covered in the walk was lengthened a little each day. At the end of a month, climbing caused but slight acceleration of the respirations, which were also almost inaudible; there was only moderate perspiration, and the patient was able to continue for at least a quarter of an hour without stopping to rest; and he could soon climb for four hours a day, whereas on the first day he could barely continue for a single hour. The cardiac contractions were now full and strong, and the patient had long since lost the feeling of oppression of the chest and dyspnœa. At the end of the trip his weight was 208 pounds, the circumference of the waist 107 ctm., and of the chest 121 ctm.

Case II.—T. R. had suffered from paralysis of the left facial nerve. In 1879, when he was thirty-four years old, he had had another attack, and, although under the best of medical care, his physician would not promise a perfect cure. The treatment had consisted in the application of a strong galvanic current. At the conclusion of his treatment the patient still had had a feeling of numbness in the affected cheek. After an excursion of three weeks' duration this numbness had entirely disappeared, and there has been no return since that time. On one occasion the patient objected to taking the walk, on account of a severe and painful attack of diarrhœa; but he finally yielded to my advice and went, and two hours later all the symptoms had disappeared.

Case III.—E. F. S., fifty years old, had suffered for thirteen years from rheumatism. At first I let him ride a part of the way and walk a part on level ground. At the end of two weeks he could climb hills. After doing this for a week and a half his rheumatism had permanently disappeared. The patient indulges in this mode of treatment now every summer.

Case IV.—C. W., thirty-nine years of age, was plethoric and hypochondriacal, and suffered from hæmorrhoids. An improvement was noticeable at the end of two weeks; and at the expiration of four weeks the hæmorrhoids had entirely disappeared, and the patient began to enjoy life. His weight at the beginning was 211 pounds, at the end of the trip it was 185 pounds; the measurements around the abdomen and chest were 108 ctm. and 104 ctm. respectively at the commencement of the tour, and 98 and 109 ctm. at its termination.

Case V.—H. L., thirty-two years old, was suffering from chronic catarrh of the stomach. There was a noticeable improvement at the end of one week, and after three weeks the stomach was in good condition, and the patient was obliged to observe but little care in his diet. A bronchial catarrh, which had given him constant trouble, was much improved the first day, and had disappeared by the end of the third day. His weight was at the commencement 145 pounds, and at the termination of the trip 160 pounds.

Case VI.—L. S., twenty-five years old, suffered from psoriasis. At the end of twenty-four days this had permanently disappeared.

Case VII.—J. B., eighteen years of age, had trouble at both apices, and complained of a poor appetite. At the end of five weeks the patient had gained nine pounds in weight and felt very well.

Case VIII.—Miss A. O., nineteen years old, had chlorosis, amenorrhœa, and suffered from a miserable appetite. After seven days there was a marked improvement, and at the end of two weeks the patient presented the appearance of a healthy girl with an excellent appetite.

Case IX.—Mrs. L. P., forty-eight years old, was weak, hysterical, and had not menstruated for two years. At the expiration of eight weeks she was much stronger, had no more hysterical attacks, and menstruation had commenced again.

In organizing parties for mountain-climbing, it is necessary to have everything arranged and to attend to certain preliminary details. Regulations should be established as to the gradual increase in the extent of the daily ascents, the periods for rest, the choice of food, the permission to drink, the regulation of time for stool, the protection of the feet, legs, and nates against chafing and the formation of blisters, the protection of the neck, and finally the selection of the mountain up which the ascent is to be made; these are all points which require careful consideration. The European mountains, where there is a better climate, and, as a rule, better paths than are to be found in the mountains of America, are to be preferred. An exception is, however, to be made in favor of the Adirondacks and some other mountains in the Eastern States, which might answer as places for exercise for American youths in search of health. It is necessary to take into consideration the individuality of the patient; and, in order to avoid monotony, which may be wearisome to the patient, it will be advisable to change from one mountain or one locality to another, so that the patient will not be tempted to discontinue the treatment.

Cinchona Cultivation in Madras.—At the end of the year 1885–'86 the number of plants on the four Madras Government cinchona plantations was 1,950,345. With one exception, that of the "Wood estate," the plantations are all in excellent order; but as this plantation is in an exposed position, and as the soil is poor, the director recommends the abandonment of a great portion of it. The outturn of dry bark during the year was 113,366 pounds, more than one half of which was crown bark. The crop of the previous year was 118,017 pounds, the amount in store at the beginning of the year 125,603 pounds, and the quantity sold during the year 113,940 pounds. This left a stock in hand at the end of March, 1886, of 125,089 pounds. The actual receipts from the sales of bark were Rs. 1,02,690, and the charges Rs. 78,935, thus leaving a satisfactory balance for the public revenue. The Madras gardens are very small compared with those of the Bengal Government in Sikkim. In the present year there are nearly five million trees in the Sikkim plantation, and the outturn of bark in 1885–'86 was 339,201 pounds. Some idea of the enormous quantity of the cinchona febrifuge that has been placed in the market might be formed from the fact that the Bengal gardens alone have turned out 3,256,927 pounds of bark since they began to yield. Almost the whole of this bark has been manufactured into febrifuge on the plantation, and the actual profits on the sale of cinchona products up to the present amounts to Rs. 4,95,513, while the saving to Government on the substitution of cinchona febrifuge for quinine is set down at no less than twenty-five lakhs. The profits in Madras have been correspondingly great, and private enterprise has followed in the wake of the Government enterprise. In the Nilgiris, Wynaad, Travancore, and Coorg there are private concerns, but the industry has never attracted the planters in Eastern Himalayas or Assam, although the reason for this does not seem very obvious.—*Indian Medical Gazette.*

A Reception in Honor of Dr. S. Weir Mitchell, of Philadelphia, was given by Dr. T. Gaillard Thomas on Friday evening of last week.

Original Communications.

THE USE OF
TRACTION IN THE TREATMENT OF CLUB-FOOT,

With a Consideration of some of the Mechanical Points involved, and a Description of the Antero-Posterior and Lateral Traction Apparatus.[*]

By NEWTON M. SHAFFER, M. D.,
ATTENDING SURGEON IN CHARGE OF THE NEW YORK ORTHOPÆDIC DISPENSARY AND HOSPITAL.

Over twelve years ago I felt that there was room for improvement in the then existing forms of apparatus for the mechanical treatment of club-foot, and, in connection with my service at the New York Orthopædic Dispensary and Hospital, commenced a series of experiments bearing upon this subject, and based upon a study of the mechanism of the ankle and tarsus.

The result of these experiments was published in the "Medical Record" for November 23, 1878, under the title "Traction in the Treatment of Club-Foot." In this article, which may be called a provisional report, I called attention to some of the defects in the conventional form of club-foot apparatus, and described one form of traction apparatus, viz., the antero-posterior (see Figs. 7, 8, 9, *et seq.*), which was devised for overcoming the contractions of uncomplicated talipes equinus. The simple lateral shoe or "pusher," with its hinged lever and screw (see Fig. 22), was also described, the latter being used to overcome the so-called lateral deformities of equino-varus prior to the use of the antero-posterior traction apparatus.

Since the publication of this provisional paper I have continued my investigations, and have made many improvements in the apparatus first described. The antero-posterior traction-shoe has been made much more efficient, and perhaps nearly perfect. The simple "lateral pusher" did not meet all of the indications presented in the compound deformity known as equino-varus, and it has been discarded in the treatment of this condition excepting in early infancy, and then it is used as a preliminary splint, the antero-posterior or lateral traction apparatus being used subsequently.

This simple "lateral pusher," however, with its hinged lever and screw, suggested the right line of investigation and introduced, I believe, the important *pushing* principle into the mechanical treatment of talipes.[†] Following up the clew it gave, I have, from time to time, added other mechanical pushing and traction elements to it until I have practically perfected the lateral-traction apparatus, which meets quite perfectly the indications presented in the compound deformities of club-foot combining the elements of equinus with either varus or valgus.

In the article already referred to I ventured to point out some of the defects in the mechanism of the conventional club-foot apparatus, the principal one being the difficulty of controlling the heel, which, in the conventional form of apparatus, is held in place, more or less insecurely, by the Scarpa heel-cup, and the retaining strap, which passes from the heel-cup over the neck of the astragalus. All surgeons who have seen and treated many cases of club-foot will at once appreciate this difficulty of controlling the heel with the apparatus ordinarily employed. I did not, when I wrote my provisional essay upon this subject, fully appreciate all the mechanical points involved, though I felt that I had discovered the correct principle of treatment. Further investigation and study enable me to present my theme in a much more tangible shape, and to accompany a description of my apparatus with, so far as I know, a few novel demonstrations of the movements at the ankle and tarsus, which movements we ought to imitate and even exaggerate with the mechanism devised to relieve the deformities of equinus and equino-varus; for it is only these varieties of club-foot that will be considered on this occasion.

I propose to call attention, first, to some points in the mechanism of the normal foot, and to afterward describe the apparatus I have devised to overcome the deformities of talipes.

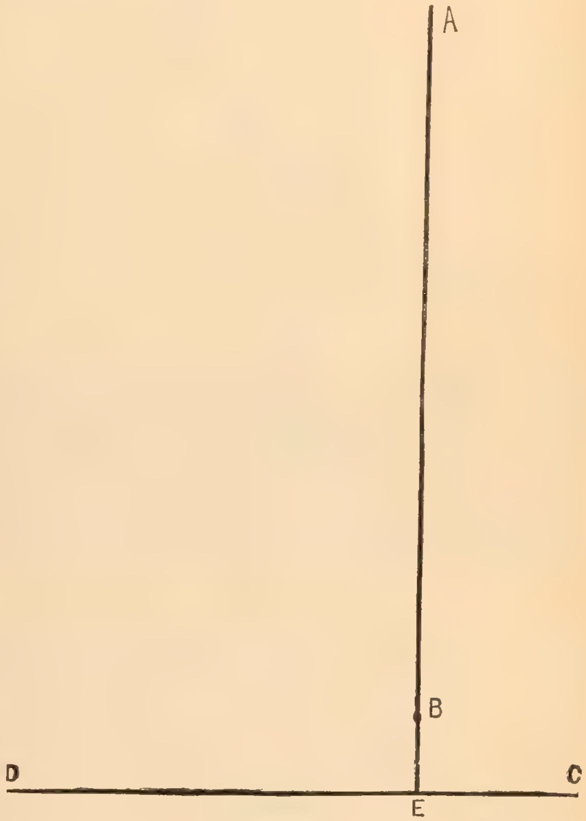


Fig. 1.

In Fig. 1 let A B E represent a line drawn from the head of the fibula through the ankle joint to the sole of the foot, B representing the center of antero-posterior motion at the ankle joint. C E D represents the sole of the foot, C the heel, and D the toes. The diagram is supposed to present a side-view of the leg and foot, with the foot at right angles with the leg, as in standing upright; a position, conventionally speaking, midway between flexion and extension of the ankle joint.

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[*] Read before the New York Academy of Medicine, February 3, 1887.

[†] I have searched in vain for a description of an apparatus which fulfills the indications presented by this "lateral pusher." It has a purely lateral action, the hinge being placed at or near the malleolus, and the force is applied to the concave side of the deformity, pushing the entire foot toward the normal position.

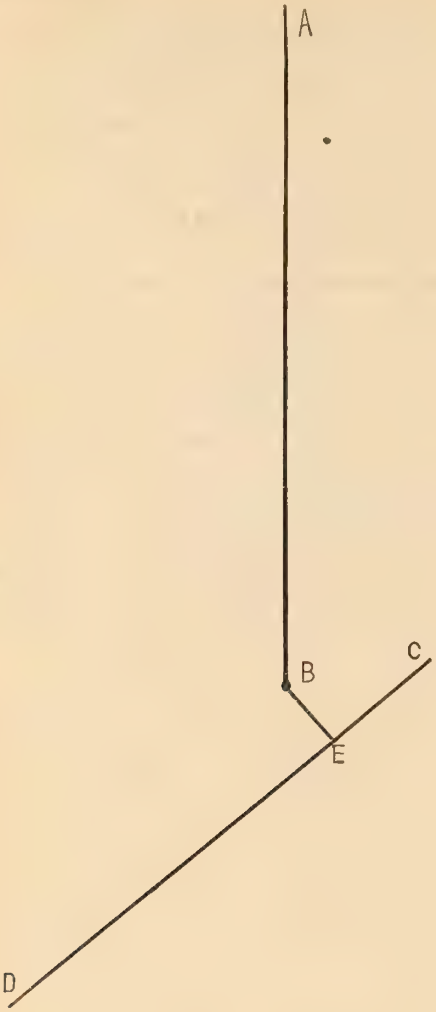

Fig. 2.

In Fig. 2 we have another diagram, similarly lettered, with the ankle in extension. The line A B is the same as in Fig. 1, but at B (the center of antero-posterior motion at the ankle joint) this line becomes deflected posteriorly on its way to E, the line C E D forming an angle of about 45° with the line A B, the position of full extension of the ankle joint.

In Fig. 3 we have still another diagram, lettered as in Figs. 1 and 2, but with the ankle in full flexion. In this figure, at B, the line A B is deflected anteriorly at B on the course to E, the line C E D forming, in normal flexion of the ankle joint, an angle of about 20° with the line A B.

In these three diagrams, as in the normal foot, there is only one center of antero-posterior rotation, and this is at the point B.* It is not at the ankle joint, but considerably below it, and in all our efforts to change a position of permanent extension, due to muscular or fibrous resistance, to that of flexion, we ought to construct the apparatus devised for this purpose with this definitely located center of motion properly placed. Indeed, it is well to exaggerate the force applied by placing this joint of the mechanism lower down than the normal center of motion at the ankle joint.

This center of antero-posterior rotation at the ankle joint being recognized, we will now combine these three diagrams in one and study the combination.

In Fig. 4 the vertical line A B I corresponds with A B E in Fig. 1; C I D corresponds with C E D, Fig. 1; A B K and E K F in this diagram correspond with A B E and C E D, respectively, of Fig. 2; A B L and G L H of this diagram correspond with A B E and C E D, respectively, of Fig. 3.

In short, A B K and E K F represent extension of the ankle joint. A B I and C I D represent the position when the foot is between extension and flexion, the so-called normal position, or that occupied in standing erect with the foot fairly upon the floor. A B L and G L H represent extreme flexion. All of these three positions have one common center of antero-posterior rotation, viz., B, just as there is only one center of antero-posterior rotation at the ankle joint.

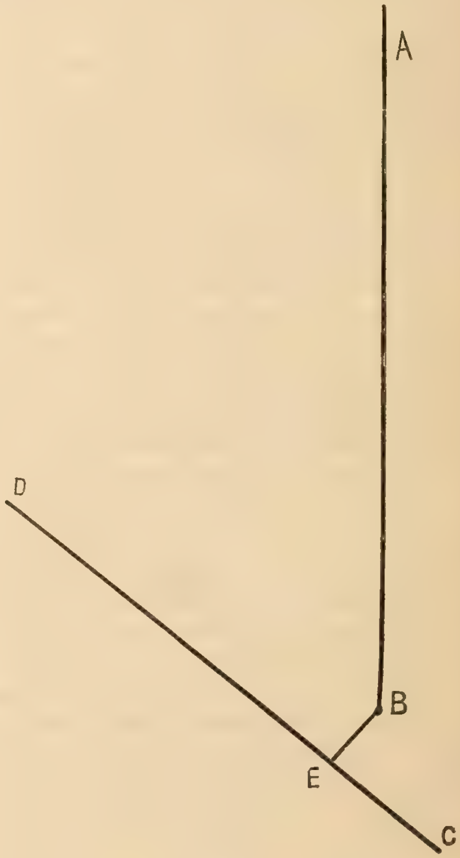

Fig. 3.

We may now apply the principle demonstrated by these diagrams to the deformity of talipes equinus. The ankle is in, we will suppose, full extension, and the heel is represented by the letter E, in Fig. 4. The problem is to force the heel, E, to take the position G, and to carry the toes from the position F to that of H. The heel, rotating around its center of motion B, must follow the curved arrow E C G, and the toes must also follow the curved arrow F D H.

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* "The axis of rotation of the curved superior surface of the astragalus passes through the most fixed part of the bone, viz., the tarsal canal, touching the outer malleolus, but passing below the inner, which does not descend so low."—Frank Baker, in Wood's "Handbook of the Medical Sciences," article "Ankle Joint."

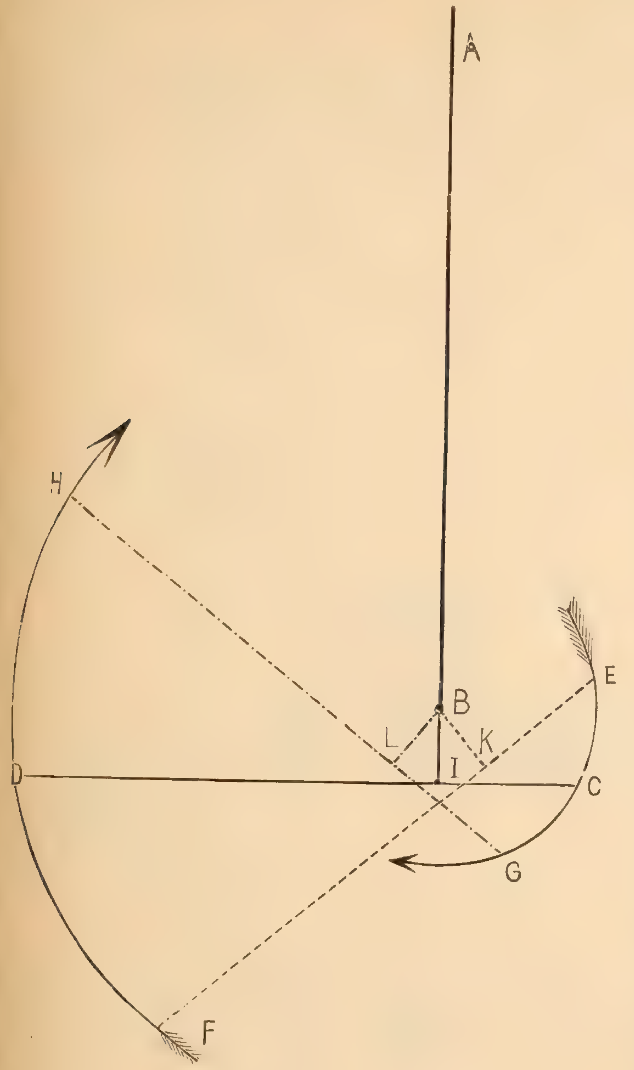

Fig. 4.

It naturally follows that the arrows E C G and F D H represent segments of a circle, each having a common center B, the latter having a longer radius.

This fundamental position being recognized, we can now study the direction of the curved heel and toe arrows, and attempt to apply the results of our study to the antero-posterior deformity known as talipes equinus.

Taking the point opposite the center of motion, B, as the plane of measurement, the direction of the heel arrow is *downward* and *forward*. Taking the same center and plane again, the direction of the toe arrow is *upward* and *forward*. When the right-angled position is reached, the heel arrow still goes *downward* and *forward*, being carried below the plane of the standing position, and the toe arrow has a direction *upward* and *backward*, or toward the vertical line (A B, Fig. 4), as in normal flexion of the foot.*

Any apparatus devised for the relief of the conditions found in talipes equinus ought to carry out these indications, and present movements based upon a correct interpretation of normal antero-posterior ankle-joint rotation.

It may be said that the conventional forms of club-foot apparatus present the movements here described. Many of them do, but no adequate means is taken to make the deformed foot, restrained by muscular contraction, follow the direction taken by the curved arrows; and, for reasons now to be stated, they can not be made to accomplish this end.

As I stated in the paper already referred to, when criticising the conventional method of retaining the heel in the heel-cup of the ordinary forms of apparatus devised for the treatment of club-foot, "the point at which the retaining force and counter-pressure is made" (the neck of the astragalus) "must also rotate around the pivotal point" (the center of motion indicated by B in all the foregoing diagrams).

In Fig. 5 let A represent the center of motion at the ankle joint. A H represents extension of the ankle joint; A I, the right-angled position; A J, flexion. When the heel rotates around the center of motion, A, and goes *downward* and *forward* (curved arrow B C), the toes pass *upward* and *forward* (curved arrow F G), the neck of the astragalus passes from H^1 (extension) to I^1 (right-angled position) to

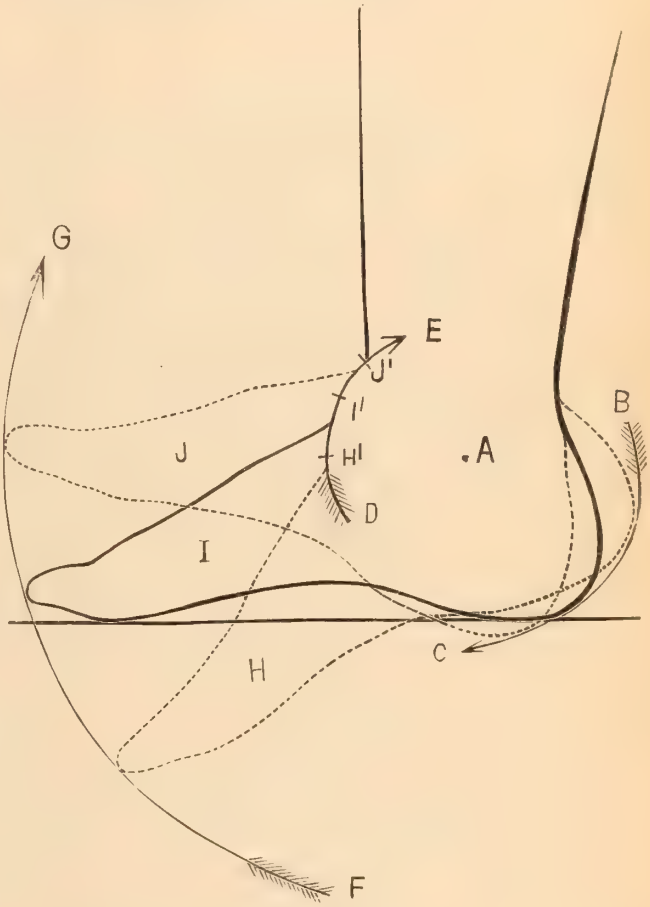

Fig. 5.

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* When the "right-angled position" (Fig. 1) is reached in overcoming the deformity of talipes equinus, the deformity is practically reduced. The antero-posterior traction-shoe is so arranged, however, that any desired position of flexion may be obtained, the traction-bar being made long enough to forcibly carry the heel *downward* and *forward* to any desired extent, thus forcing the toes *upward* and *backward* toward the tibia when the "right-angled position" is passed.

J^1 (flexion), and it (the neck of the astragalus) follows its own curved arrow, D E, the direction of which is *upward* and *backward.* In short, the heel rotates *downward*, and the neck of the astragalus rotates *upward* around the transverse center of antero-posterior motion at the ankle joint.

It becomes plain, therefore, that the neck of the astragalus, being tied down, as in the conventional form of apparatus, can not rotate *upward*, and, if this movement is blocked, the heel can not go *downward.* When flexion is attempted in the ordinary forms of apparatus, with the retaining heel-strap applied, there are these insurmountable mechanical impediments that effectually prevent the foot from following the mechanical law of antero-posterior rotation which I have attempted to describe.

If this heel-strap which passes over the neck of the astragalus is loosened to permit the movements indicated in the conventional form of apparatus, all control over the foot is lost.

And this brings us to an important point that ought to be considered. The center of motion of the ankle joint is below the malleoli. While this anatomical center of antero-posterior rotation of the ankle can not be changed, and we can make the artificial center in the apparatus correspond with it, the restraining force necessary to produce forcible flexion of the ankle must be applied at the *rotating astragalar neck.* If we could pass an iron bar transversely through the foot at the center of antero-posterior motion of the ankle, the restraining astragalus strap would be unnecessary. Even if this could be done, the foot would not follow the apparatus with strong contractions holding it in a deformed position unless the foot were securely fastened to the foot-plate of the apparatus by some such means as the traction heel-strap of my apparatus (soon to be described), and an adequate force applied to bring the foot into the desired position. It should be remembered that we are not, in treating the conditions found in club-foot, applying a mechanism to a foot with normal antero-posterior motion. There are strong contractions to be overcome, and the normal movements should be *exaggerated*, in order to exert the proper *traction* upon the resisting tissues.

In the conventional form of club-foot shoe the rotation of the astragalus is blocked by the faulty mechanism, antero-posterior rotation of the ankle joint is prevented, the heel is not controlled by the Scarpa heel-cup, and no adequate force is applied to carry the heel *downward* and *forward.*

There is another fault no less important in the mechanism of the ordinary form of apparatus.

I will attempt to explain it by another diagram:

In Fig. 6, A B I and C I D correspond with A B E and C E D of Fig. 1 when the foot is at the right-angled position. A B K and E K F correspond with A B E and C E D of Fig. 2 when the foot is in extension. In the conventional form of apparatus the flexion force is applied in the direction of the arrow, R S, which is mechanically incorrect and opposed to the movements sought for. The heel should move *downward* and *forward*, the toes should go *upward* and *forward*, the head and neck of the astragalus should pass *upward* and *backward*, in the first movement of talipes equinus. Any force, be it elastic or other, applied in the direction of the arrow, R S, in talipes equinus, antagonizes these movements, and favors the *upward* and *backward* movement of the heel, especially if a restraining astragalar strap is used to block the upward rotation of the astragalus. When the right-angled position of the foot is reached, the movement indicated by the arrow, R S, is correct, if the heel is brought downward and forward by some traction force, and allowance is made for the rotating astragalar neck. But when the right-angled position is reached, the difficult feature of the deformity is removed, and the favorable result is practically assured.

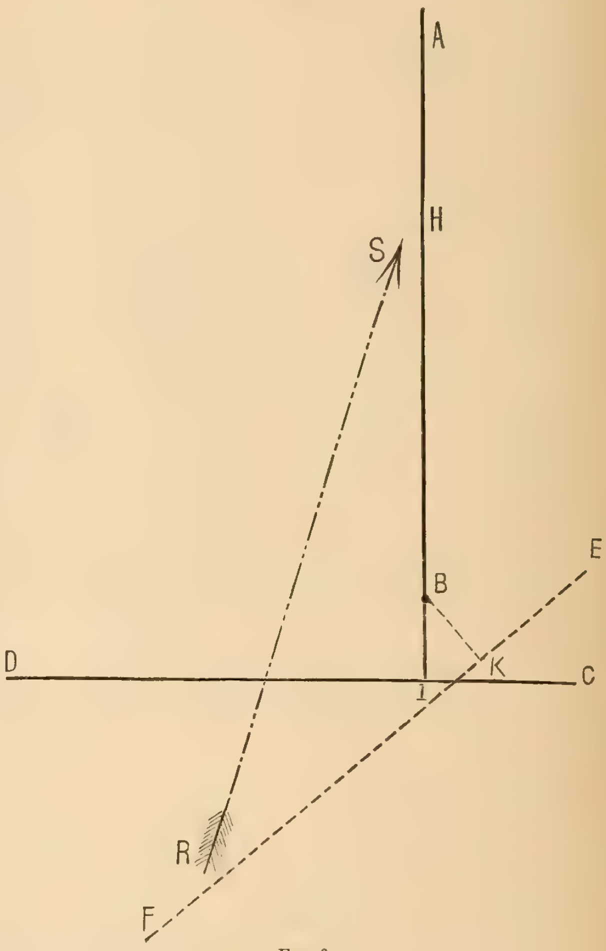

Fig. 6.

Still another fault exists in the conventional form of apparatus. No provision is made in the foot-plate of the apparatus for the heel as it passes *downward* and *forward.* As soon as the right-angled position is passed, the heel drops below, just as the toes pass above, the plane presented by the sole of the foot as it rests upon the floor. This is shown in the curved heel arrows in Figs. 4 and 5. As soon as the right-angled position is passed, the further rotation of the heel is permanently obstructed in the conventional form of apparatus by the foot-plate of the apparatus, which should be provided with an opening for the descending heel.

It should be the object of treatment in talipes equinus to restore the normal movements of the ankle, if possible; certainly to produce a certain amount of flexion beyond the right-angled position. The apparatus about to be described permits any desired angle of flexion to be obtained, and the apparatus is especially constructed with this end in view.

These are the principal points of criticism to be made upon the conventional forms of apparatus obtainable in the shops of the instrument-makers. There are others I might urge were there time or inclination. Those mentioned are the most important, and demand the attention of all who are interested in the treatment of club-foot.

Having pointed out that which I consider radically defective in the apparatus ordinarily used for the treatment ot club-foot, and which I was taught to use and did use for years, I come now to a description of what I have termed the "traction apparatus," which, I think, not only meets the mechanical indications mentioned, but permits the application of sufficient force to overcome many of the deformities presented without the intervention of tenotomy.

As the diagrams I have presented bear only or principally upon the indications for the treatment of antero-posterior deformities, with plantar or post-tibial contraction, or both, I will describe the "antero-posterior traction apparatus" first, and call attention to the "lateral-traction shoe" afterward.

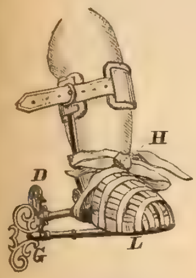

FIG. 7.

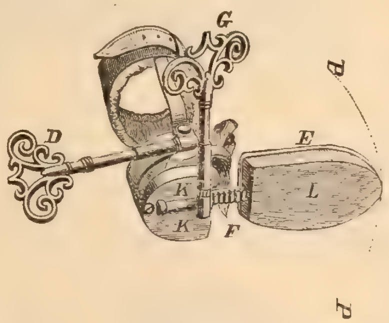

FIG. 8.

In the paper already referred to I described this antero-posterior traction-shoe. I then attached the apparatus to the foot by means of adhesive plaster. The apparatus with its adhesive-plaster attachment, as originally used, is shown in Fig. 7.

Figs. 8 and 9 were also used to illustrate the apparatus.

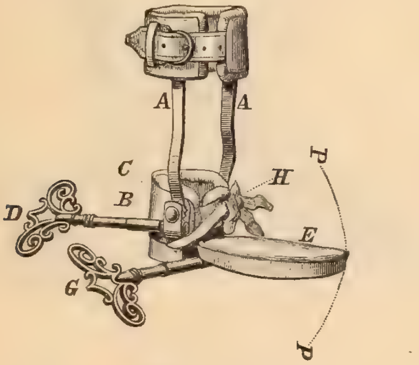

FIG. 9.

I have long since discarded the use of adhesive plaster in making traction for a much more ready and convenient method, as will be seen by a comparison of these engravings with the engravings that illustrate the apparatus as used at present.

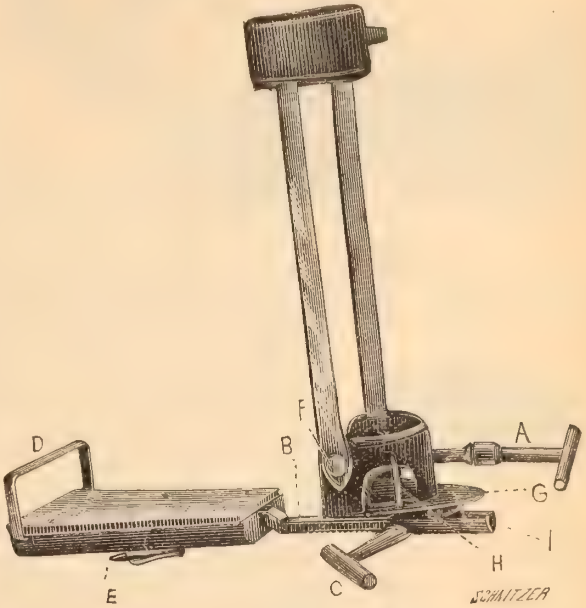

FIG. 10.

The apparatus as at present used, without the webbing heel-traction strap (by which traction is made), is shown in Fig. 10. It consists of a calf band joined to two strong uprights, which are attached, opposite or below the center of ankle-joint motion, to the heel-cup. These parts, being very prominent and easily understood, have not been lettered. This heel-cup * is perforated posteriorly, as in the conventional form of apparatus, by two openings, H, through which the heel-strap, or, as I prefer to call it, the astragalus retention-strap, is passed (see C, Fig. 16). One upright (see Fig. 12, C D) is attached to the heel-cup by an endless worm and screw, controlled by the key A (Fig. 10); the other upright has a plain antero-posterior joint, F, seen in the engraving. This endless worm and screw movement enables the operator to place the foot-plate of the apparatus at any desired angle of flexion or extension. At a point which corresponds, when the apparatus is applied, with the medio-tarsal joint, the foot-plate is divided transversely and the anterior part is connected with the heel portion by a traction rod, B, which is controlled by a key C. Under the heel-cup is a long cylinder, I, into which the traction bar fits, and the foot-plate is extended posteriorly to afford a strong support (G) for the traction-cylinder and rod. Anteriorly the foot-plate has on its lower surface two buckles, E, for the attachment of the traction heel-strap (Fig. 14; Fig. 15; K and D D, Fig. 16). This heel traction-strap is made of webbing. It goes around the heel, and, passing forward, is reflected back upon the uprights of the bridge, D, to the buckles at E, on either side of the under part of the foot-plate (see Figs. 15 and 16). The key C moves the ante-

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* This heel-cup is an unnecessary adjunct to any club-foot shoe which aims to bring the heel downward and forward. I have recently had my apparatus made without any heel-cup. It serves, however, as a useful guide in placing the heel in position before applying traction, and strengthens the apparatus. But the Scarpa heel-cup is unnecessary, inasmuch as the first movement of the heel is *forward* and *downward*.

rior part of the foot-plate backward and forward by a ratchet movement on the extension bar, B.

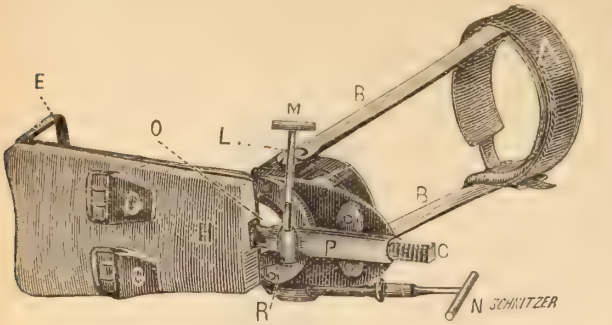

FIG. 11.

Fig. 11 gives a view of the lower part of the foot-plate. The buckles, G G, for the attachment of the traction heel-strap; the traction rod, C; the cylinder, P; the flexion and extension worm and screw controlled by the key, N, are plainly shown. The key, M, is in position to throw the anterior part of the foot-piece forward. The semicircular opening, O, for the descent of the heel, in the foot part of the heel-cup, surrounded by its strong rim, R, is also shown. When traction is made and the heel is brought downward and forward, it passes through this opening unopposed by any obstruction.

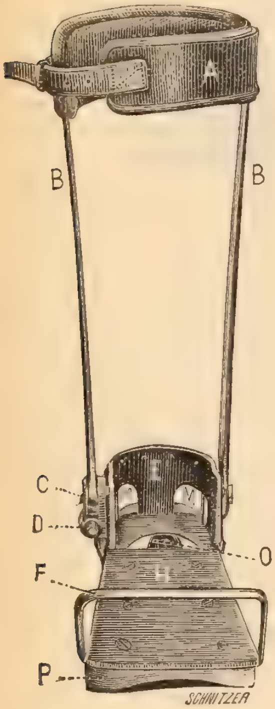

FIG. 12.

Fig. 12 shows another view of the apparatus. The endless screw is shown at C and D; the heel-cup at E, with the two openings, M M, for the astragalus retention-strap; the semicircular opening, O, for the descending heel, and the bridge, F, for the reflected heel traction-strap.

Fig. 13 affords a general view of the apparatus with the traction rod closed and with the heel, toe, and astragalar arrows in position, all having their center in the ankle joint, C, of the apparatus.

This being a brief description of the antero-posterior traction apparatus, I will now attempt to show its application and to demonstrate how it fulfills the indications I have tried to point out.

The first step in the application of the apparatus is to prepare the foot for the traction it must undergo, and to so apply the necessary pads and straps that the movements indicated in the previous part of my remarks may be accomplished.

This preliminary process is shown in Fig. 14. A thick pad of Canton flannel or other soft material, C, is placed over the neck of the astragalus. A narrow piece of roller bandage, A, is then passed over it and around the heel as indicated in the engraving. Two or three turns are sufficient. The end of the bandage is secured by an ordinary pin just below the internal malleolus, where no pressure is exerted when the traction is applied. A piece of surgical webbing five eighths of an inch wide is then placed over the heel, well down, and brought forward under the bandage and below the malleoli (as shown in Fig. 14), the bandage acting not only to retain the astragalar pad in position, but the heel traction-strap as well.* (In the engraving the webbing

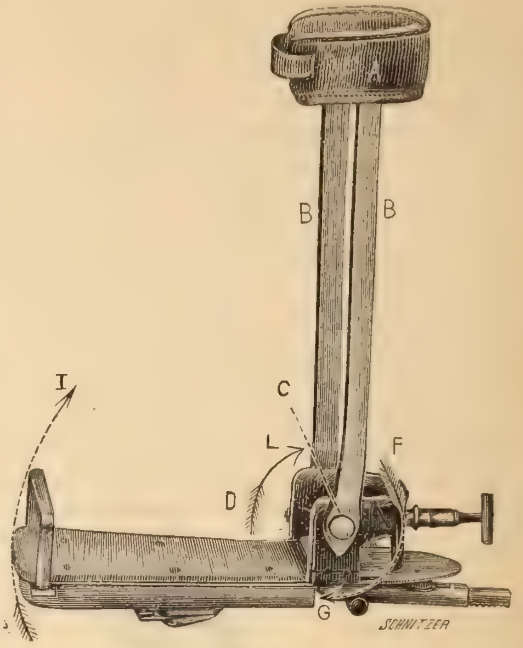

FIG. 13.

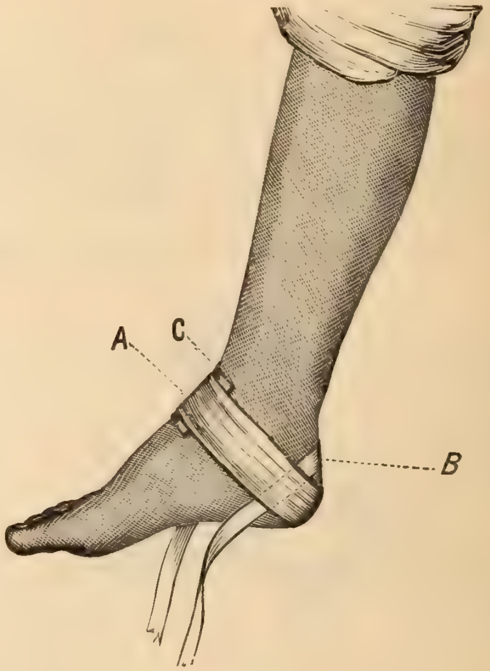

FIG. 14.

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* As this webbing is an important matter, I may say that the only webbing I have obtained which answers the purpose came from Messrs. H. V. Allien & Co., No. 738 Broadway, New York.

heel traction-strap is much too short, and the pad, C, should be much thicker.)

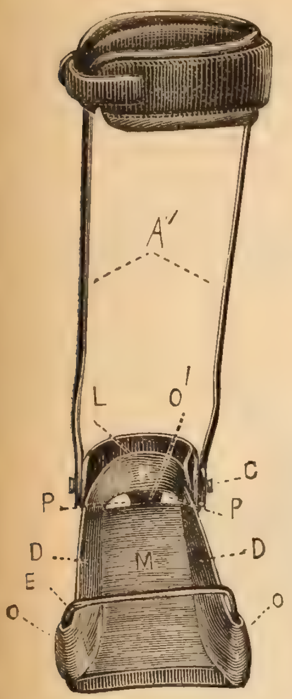

Fig. 15.

In Fig. 15 the traction heel-strap is shown (D D and K). This is the correct position for it when the traction is applied, though it is here shown lying against the heel-cup at K, without being passed under the retaining bandage, as in Fig. 14. It is carried forward to the uprights of the bridge and is reflected back at O, to pass, as in J (Fig. 16), to the buckles underneath the foot-plate.

In Fig. 16 the astragalus and heel traction-straps are shown in position, the general adjustment being illustrated in Figs. 17, 18, and 19. The astragalus-strap, C, is made of Allien's webbing, five eighths of an inch wide, seventeen or eighteen inches long, and a buckle is sewed on one of its free ends, as at D (Fig. 16). This webbing is passed through the openings in the upright part of the heel-cup (M M, Fig. 12), and is "buckled on itself," as shown in the engraving.

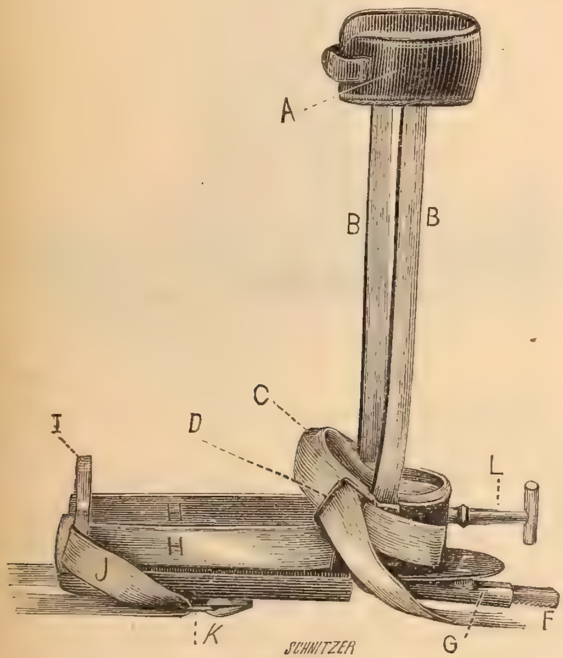

Fig. 16.

The traction heel-strap is also shown (H J), though, of course, this strap is passed around the heel and under the retaining bandage as a preliminary step, as shown in Fig. 14.

I have made it a cardinal rule in the treatment of chronic deformities *to make the apparatus fit the deformity*, and to so arrange the mechanism of the apparatus that a progressive and easily applied pressure may be exerted in the direction indicated. This is especially true of the mechanical treatment of club-foot, and I have long since ceased to attempt to crowd a crooked foot, partly relieved by tenotomy, into, comparatively speaking, a straight apparatus.

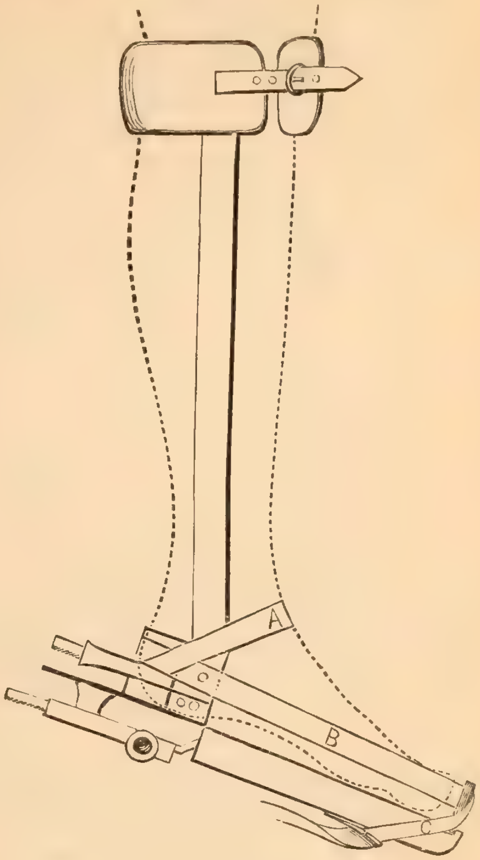

Fig. 17.

Adapting the antero-posterior traction apparatus exactly to the antero-posterior deformity by using key L, Fig. 16, and placing the foot, with its traction heel-strap and astragalar pad adjusted as in Fig. 14, in the apparatus, we have an adjustment as shown in Fig. 17. The astragalar strap, A, is buckled on itself, holding the foot securely in the heel-cup; the traction heel-strap, B C, is drawn tightly, reflected back around the vertical uprights of the "bridge," and buckled, each one of these webbing straps being made as tense as possible. The apparatus fits the deformity and the heel is squarely in its place, being retained by the astragalus strap. The astragalus strap, A, is made very tight in order to get an accurate and tense adjustment of the traction heel-strap, B C. Being sure that B C is drawn tightly, with the heel well down, and resting against the posterior part of the heel-cup, we now *loosen the astragalar strap*, A, *from half an inch to an inch and a half*, depending on the size of the foot. All being ready, we now use the key A (Fig. 10), and change the position of the apparatus from extension to that of the right-angled position. What happens? The apparatus obeys, but the foot does not change its position; the loosened astragalus strap allows the heel to take its own position, and no traction is made upon the resisting tissues.

Fig. 18 shows this result. The foot-plate of the apparatus is at the right-angled position, but the post-tibial contractions are unaffected. There has been nothing done to bring the heel *downward* and *forward*. On the contrary, it has remained in its original position, because the force thus far used has been applied upon the incorrect principle shown in Fig. 6.

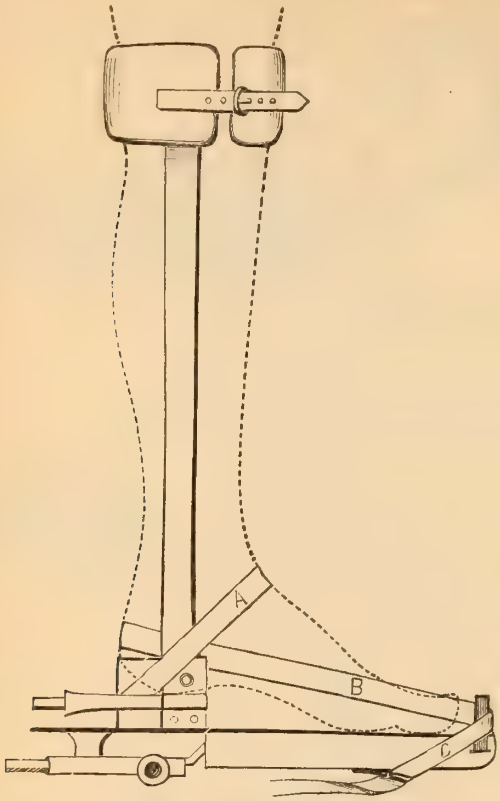

Fig. 18.

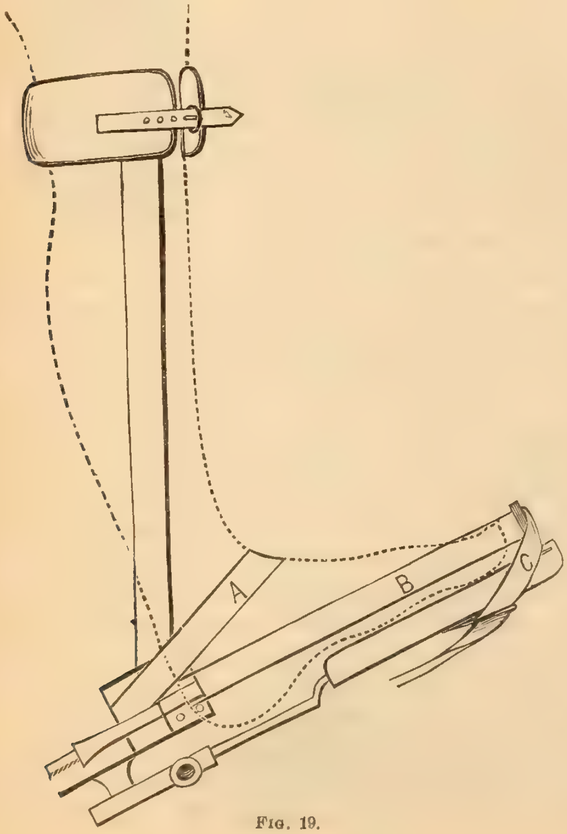

Fig. 19.

We now give the key A (Fig. 10) another turn or two, and use the antero-posterior worm and screw to force the apparatus into the position of flexion. The heel still remains in its original position. Now, however, use key C (Fig. 10) and apply direct traction. The result is shown in Fig. 19. The heel is drawn irresistibly *downward* and *forward*, the toes are carried *upward* and *forward*, and the *loosened astragalus strap permits the neck of the astragalus to move upward and backward.* By this simple process we have given the apparatus the desired plane of flexion, have made full allowance for the rotating astragalar neck, and have deliberately drawn the resisting foot into the position sought for, and fulfilled the indications presented in Figs. 4 and 5.

It will be noted not only that the normal antero-posterior movements of the ankle joint are here reproduced, but that they are *exaggerated*. We can, by the use of this apparatus, imitate the natural movements, and, by the use of traction, stretch all the opposing antero-posterior tissues, whether post-tibial or plantar, or both. It not infrequently happens that the adolescent foot is permanently elongated half an inch by this easily controlled traction-force without tenotomy, and a temporary gain of from one eighth to one fourth of an inch at a single treatment, lasting only fifteen or twenty minutes, is not unusual. This makes this apparatus particularly serviceable in adult or adolescent cases of non-deforming club-foot,* as well as in confirmed talipes equinus.

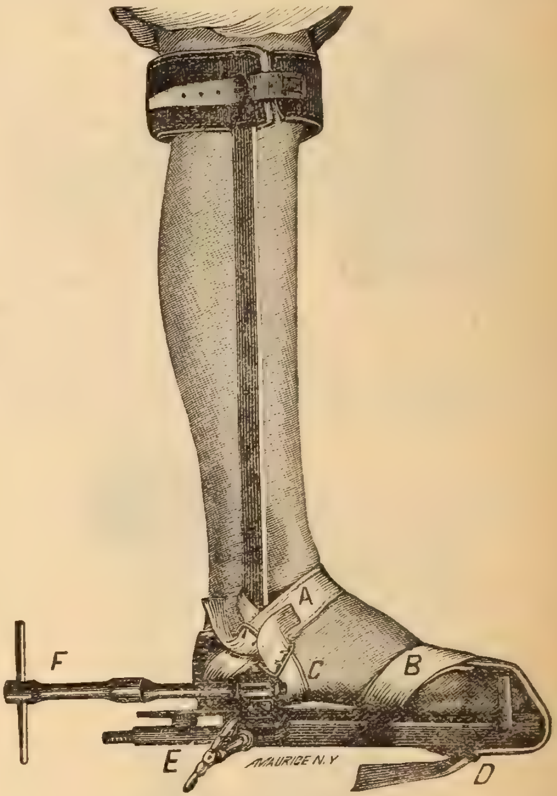

Fig. 20.

We can make this traction apparatus available also in the, strictly speaking, tarsal or plantar contractions, especially when they are antero-posterior. When much varus exists, the "lateral-traction shoe" is indicated, and this will be described further on.

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* See "Non-deforming Club-Foot," by the writer, "Medical Record," May 23, 1885.

In Fig. 20 the antero-posterior traction-shoe is applied to a patient with marked contraction of the plantar fascia. The astragalar strap is fastened in the manner described at Fig. 16. In place of the traction heel-strap there described, however, a webbing strap (C, Fig. 20) is passed underneath the os calcis and behind the lateral uprights of the apparatus, "buckling on itself," as does the astragalus strap (A, Fig. 20). We then have the os calcis secured firmly in the heel-cup by the astragalar and sub-os-calcis straps. A loop of webbing is then passed over the anterior part of the foot, just back of the "ball of the foot" (B, Fig. 20), and this is fastened to a buckle on the under part of the foot-plate (D, Fig. 20). The apparatus is now placed in any desired position of flexion, and direct traction is applied with key E, Fig. 20, and the result is shown in Fig. 21.

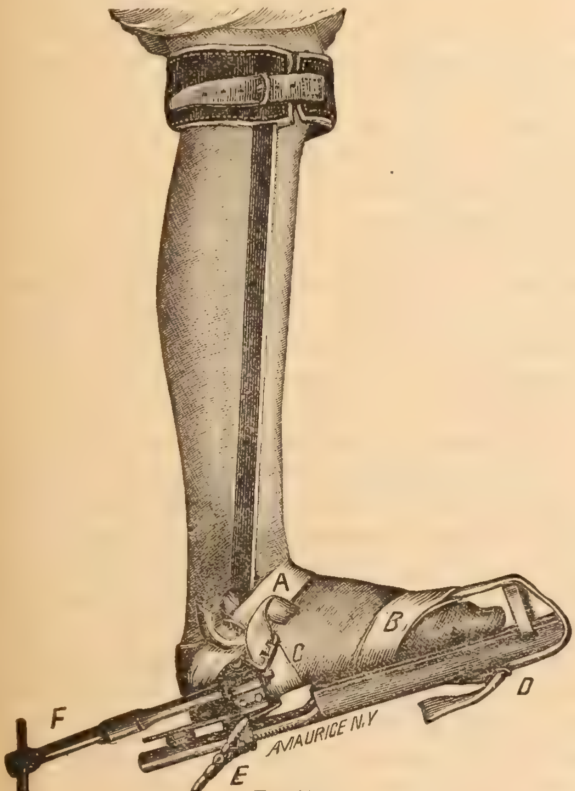

Fig. 21.

The more firmly the astragalus and the os calcis are fixed, the better in this condition, as the traction is needed at the plantar fascia, and not at the gastrocnemius muscle, and hence the astragalus strap is not loosened, as in the treatment of post-tibial contractions. I have seen severe and apparently permanent contractures in the adult overcome without tenotomy by this simple method of treatment, and it is apparently an easy matter to lengthen the foot from one eighth to one half of an inch in adults and adolescents by the traction method in cases of plantar contracture.*

(*To be concluded.*)

SOME CONSIDERATIONS CONCERNING CANCER OF THE UTERUS,
ESPECIALLY ITS PALLIATIVE TREATMENT IN ITS LATER STAGES.*

By ANDREW F. CURRIER, M. D.

There are some forms of disease which have been handed down to us from remote antiquity in which the evolution of knowledge which leads to their cure has been a very slow process. Such, for example, has been the history of syphilis, small-pox, and pulmonary phthisis.

Equally ancient is the dreadful and dreaded disease which is known as cancer, and the fullness of time and knowledge has not yet come when it can be considered curable, certainly if we refer to it in those stages in which it is ordinarily seen.

It was a singular fancy of Galen, who saw in the distended and tortuous veins of the cancerous breast the resemblance to the claws of a crab, and therefore called the disease *cancer*—the crab—by which name it has been perpetuated through all the centuries since Galen lived; and it was a long step forward when the investigation of it was based upon other than purely clinical considerations.

Now, while I firmly believe that the clinical symptoms are usually sufficiently positive, after the disease has made some headway, to enable one to pronounce a diagnosis, that assurance is frequently wanting in the early stages, especially in cancer of the uterus, and it is just these stages concerning which exact knowledge is of the greatest practical importance.

It is time, too, that our classifications of this and other morbid conditions were made to conform with the present state of anatomical knowledge, rather than with real or fancied resemblances to various objects in nature. To say that one cancer is encephaloid, another medullary, and another colloid, because the men who suggested these names saw in the first a remote resemblance to brain matter, in the second a resemblance to marrow, and in the third a slight resemblance to glue, would be amusing if such terminology were not so seriously received and reverently retained by the profession.

In other words, the only rational and scientific classification of anatomical entities is that which is based upon anatomical structure.

There are three principal theories with regard to the structure of cancer, all of them admitting, however, what is fundamental and easily recognized, namely, that the neoplasm cancer consists of a connective-tissue framework of alveolar formation, the alveoli being more or less densely packed with free cells. The essential features of those theories are as follows, viz.:

1. Virchow regards the structure as a heterologous one, the epithelial cells of the alveoli being the result of the proliferation of connective-tissue cells.

2. Rindfleisch considers that the cellular elements of the alveoli originate from epithelial structures, but that by a kind of epithelial infection the connective-tissue round

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* In Figs. 20 and 21 the necessary pads over the astragalus and under the metatarsal loop are omitted in order to show the principle of action more clearly. No pad is needed under the os-calcis strap.

* Read before the Medical Society of the State of New York at its eighty-first annual meeting.

cells of the alveoli may be converted into epithelial elements.

3. Waldeyer regards cancer or carcinoma in general as simply an atypical epithelial new growth, which is derived essentially from epithelium wherever it occurs. (See Macewen, "Glasgow Med. Jour.," April, 1886; Waldeyer, Virchow's "Archiv," Bd. lv, 1872; Waldeyer, Volkmann's "Sammlung," No. 33; Perls, "Allgemeine Pathologie," Bd. i, pp. 480–485; Billroth, "Surgical Pathology" [Appleton, 1877], pp. 646–660.)

The theories of Thiersch and Billroth harmonize with that of Waldeyer, and, as was stated at the great discussion on *cancer* before the Glasgow Pathological and Clinical Society in 1886, nothing has appeared since Waldeyer's investigations were published which could refute them, Macewen also observing in that discussion that it was probable that the questions as to the structure and method of development of the neoplasm were settled.*

In by far the larger number of cases cancer of the uterus is a primary affection, but it is not infrequently secondary, as the methods by which the disease is propagated would suggest.†

As to whether the disease is local or constitutional in its origin, the weight of opinion now tends to the adoption of the former hypothesis. This question was vigorously discussed by the London Pathological Society in 1874 in a series of four notable sessions ("Trans. of the Path. Soc. of London," 1874), Mr. De Morgan, of the Middlesex Hospital, and others maintaining the former (local) view, and Sir James Paget the latter (constitutional). At the Glasgow discussion both views were also advanced, the strongest arguments being in favor of the former. (See "Glasgow Med. Jour.," April, May, June, July, 1886.) Among German gynæcologists and pathologists the *local* theory is quite generally held.

On the other hand, there is without doubt, in certain individuals, an hereditary tendency to develop certain types of disease under sufficient provocation, but the fact that so many daughters of mothers who have died from cancer of the uterus have lived and borne healthy children, and died without showing any signs of cancer in any form, militates strongly against the heredity theory which Sir James Paget has so earnestly endeavored to establish.

At the same time, the facts that cancerous tissue may be removed never so carefully and thoroughly, that the disease may remain latent perhaps for years, but almost always reappears, if not at the original site yet in some remote part or organ—these facts, I say, admonish us that there can be no radical removal of the cancerous uterus when its first stages are passed; that is, when it has gone beyond the uterus itself. The statistics of Schröder's experience in this matter are instructive and suggestive. (See Hofmeier, "Ztsch. f. Geb. u. Gyn.," Bd. x, H. 2, "Zur Statistik des Gebärmutterkrebses.") Of 812 cases of cancer of the uterus which he had seen either in public or private practice, 129 were operated upon successfully, and with the hope that a radical cure would result. In only 29 of these had the disease failed to recur at the end of two years, and subsequently this number was further diminished.

Let it be borne in mind that these figures represent not only the work of one who has had more experience in this field than any other living man, but also that he is a man of great learning and operative skill, and enthusiastic upon the subject of the surgical treatment of cancer.*

It is a sad reflection that, with all the boldness and dexterity which have been exerted since Freund's memorable essay proposing the complete removal of the uterus for cancer in 1876, with the improved vaginal hysterectomy, with resection of the rectum, bladder, ureters, and pelvic tissues, the disease will persistently recur unless, as has already been stated, the operation is performed before the advance guard, as it were, has gone beyond the reach of the knife. As yet I believe no one has been rash enough to profess to have found a bacillus of cancer, and, while one of the Glasgow disputants admitted the great advantage which would follow were a bacillus to be found "curled up in its epithelium," there was no difference of opinion among those who participated in the discussion that the disease was not likely to be placed upon this basis.

The possibility of its originating by inoculation deserves at least a passing thought. Several well-authenticated cases of cancer of the breast and cancer of the penis were cited by Macewen at the Glasgow discussion in proof of its inoculability, and if these are facts the same thing is possible for cancer of the uterus. There are still too few data upon this point to speak with positiveness.

No one has as yet proposed any method of inoculation as a means of treatment, and herein lies a fine opportunity for some ambitious disciple of Pasteur. Inflammations and senility of the tissues have also been brought forward as possible causes of this disease. While the former may not constitute an immediate cause, they doubtless may predispose to it by their effect upon the tissues. Concerning the latter as a cause, nothing but speculation has been offered, so far as I know. The term is a very comprehensive one, and may refer either to worn-out tissues in early life, worn-out tissues which result from over-activity (*e. g.*, very frequent pregnancies), or to those which occur in women who have reached the later periods of life. Under any of these conditions it would not be difficult to speculate upon this point, but without a satisfactory conclusion.

The ordinary classification of cancer of the uterus into scirrhous, encephaloid, medullary, and colloid seems to me to be both artificial and confusing, for, the structure being essentially the same in all the forms, who can tell exactly how great a preponderance of one or the other anatomical element will constitute the dividing-line for each variety?

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* Friedländer has recently stated that Waldeyer's definition is not sufficient, and that we should add to it, as the most important peculiarity of cancer, the words "of a malignant character." The malignancy of the process is shown, he adds, by its forcing its way through various tissues without hindrance. (See Friedländer, "The Use of the Microscope," translated by Dr. H. C. Coe, Appleton & Co., 1885, pp. 170 *et seq.*)

† Two cases of secondary cancer of the uterus are reported in Dr. Willard Parker's tables, which include three hundred and ninety-seven cases of cancer of the breast ("Cancer," Putnam, 1885), these being the most recent statistics I have seen upon this subject. Both cases occurred in aged women many years after the removal of cancerous breasts.

* Since this paper was written, word has been brought us of Professor Schröder's death. No man of his generation had done more to develop gynæcological surgery, and his efforts were wise and conservative.

Following Waldeyer, I prefer to call all the forms *epitheliomata;* in other words, I would make *uterine epithelioma* and *uterine cancer* synonymous.* Clinically, we have hard cancer or epithelioma when it is chronic or slow in its development, and when there is an excess of connective tissue, which also means low vascularity, relatively few cells, and slight discharges. We have soft cancer or epithelioma when it is acute or rapid in its course, and when there is an excess of cells, which also means high vascularity, relatively small quantity of connective tissue, offensive discharges, and perhaps dangerous hæmorrhages. When hard cancer has reached the stage of ulceration, it is frequently indistinguishable from the soft variety.

It has been thought that certain nations or races, certain classes of society, and certain ages were more susceptible to this disease than others. It has been alleged that German and Irish women show this susceptibility to a marked degree, and that the negro race is practically exempt from it. It has also been stated that the working classes are more liable to it than their sisters who are more fortunately circumstanced in the struggle of life, all of which statements are true within certain limits. In Schröder's statistics (*l. c.*) of 18,000 cases of disease of the female genito-urinary apparatus which were seen at his Poliklinik, 603 (=3·6 per cent.) were cases of uterine cancer. Of 9,400 cases which were seen in private practice, there were 209 (= 2·18 per cent.) cases of cancer of the uterus. Presumably most of the women were Germans, and the proportion of cancer to other so-called female diseases is large. The larger percentage in public as compared with private practice is also noticeable and significant.

Of 65 cases of uterine cancer which have been seen at the New York Skin and Cancer Hospital during the past three years, 25 occurred in Irish women, 15 in Germans, 13 in Americans (including 1 negress and 1 mulatto), 8 in English women, 2 in Scotch, and 2 in French. They were, almost without exception, poor, hard-working women, living in bad hygienic surroundings. The excess of Irish and Germans in this table may be accounted for by the preponderance of these elements in our cosmopolitan community. The negro race and its modifications are by no means exempt, as the mortality reports of our Southern States will show. (See Thomas, "Dis. of Women," 1880, p. 584.) All writers agree that cancer of the uterus is exceptional in nulliparæ, and that the tendency to it increases with increased fertility. Of Schröder's 812 patients only 39 were nulliparous, and in the 65 whose cases I have analyzed there were but 3 (their ages being thirty-nine, fifty-three, and sixty-seven, respectively).

The average number of children for 49 of these 65 women who were known to be parous was nearly 4½, one of them having had 13. Of Schröder's patients, 76 had borne 10 or more children each. In Schröder's table almost all the women were between thirty and sixty years of age, the largest number, 272, being between forty and fifty—that is, in the decade which includes the climacteric. Hence the conclusion is reasonable that cancer of the uterus is practically limited to the period from the thirtieth to the sixtieth year of life, by far the largest number of cases occurring between the fortieth and fiftieth years. In Schröder's cases it was observed that the disease developed very rapidly during the puerperal period—that is, while the pelvic circulation was in an exalted condition.

To these causes—overwork, underfeeding, bad hygiene, race peculiarities, and family tendency, however much or little the latter may be influential—I wish to add another, upon which due stress has never been laid by any writer with whose work I am acquainted, and that is excessive sexual indulgence. Excessive sexual indulgence means excessive hyperæmia of the uterus and vagina, excessive vasomotor irritation, excessive destruction of the epithelium of the vagina and cervix uteri; and when we reflect that this indulgence is so frequently persisted in without respect to the normal hyperæmia of the menstrual period, the softened condition of the tissues during pregnancy, or their paretic condition in the period which follows parturition, is it any wonder that cancer of the uterus heads the list, and that in by far the greater number of cases it is the cervix or vagina which first resents the injuries which have been received?

Considering all the facts which have been brought forward, it is not strange that cancerous disease is reported to be increasing. The increase is most marked in the crowded cities, for there the struggle for existence is hardest, and the three great blessings of nature—air, sunlight, and water—are least enjoyed by those whom cancer selects for its victims.

In Great Britain the deaths from cancer in 1858 were 334 to the million of inhabitants; in 1862 they were 368 to the million; in 1864 they were 394; in 1867, 403 to the million (McCall Anderson, "Glasgow Med. Jour.," July, 1886, p. 17); in 1873-'74, 443 to the million (Post, "Am. Jour. of the Med. Sci.," Jan., 1886, p. 113). In New York city in 1875 they were 400 to the million; in 1885, 530; but what is especially significant is the fact that one half of all cases of cancer involve the uterus (Post, *l. c.*).

From the foregoing it may be inferred that I am an adherent of the doctrine that cancer of the uterus is the result of local irritation. Constitutional weaknesses, bad hygiene, improper alimentation, excessive fertility, etc., prepare the soil, as it were, but a local irritant is, in most cases, needed to precipitate the disease. It may be a long time, however, before the effect of that irritation is fully developed, and this is not a forced hypothesis, for we frequently have severe forms of disease of other kinds developed years after the original lesion was received. As to the seat of election for development of cancer of the uterus, I know of no more rational exposition than Schröder's ("Brit. Med. Jour.," Dec. 8, 1883). I shall therefore adopt that—with some modifications. My observations upon this portion of my subject have been almost entirely clinical, and I have been able to detect the disease in its early stages in only a very small number of cases.

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* Friedländer objects to the term epithelioma for epithelial tumors of all kinds. He prefers the term *cancer* for those that are malignant, and adenoma for the benign growths (*l. c.*, p. 172).

1. First in point of frequency, least malignant, according to Schröder, and most amenable to radical operation, is the form of hard cancer which is commonly known as the *cauliflower excrescence*, or *cancroid*, or *papilloma*, which is of slow growth, and involves principally the epithelium of the follicles of the mucous membrane of the vaginal portion of the cervix. Schröder describes it as involving also the mucous membrane of the vagina, the pelvic cellular tissue, and, finally, the mucous membrane of the cervical canal. It seems to me, however, that before the latter is reached there must be more or less extensive lymphatic infection, and hence it is difficult to accurately define the limit within which radical removal is possible.

2. The second form is developed upon the pavement epithelium of the vagina and vaginal portion of the cervix, hard in character, and slow in development. Connective tissue in it is relatively abundant, and I have recently seen a case in which there were large areas of connective tissue which had completely displaced the epithelial elements, and in these areas the progress of the disease appeared by the microscope to be self-limited. Beyond these areas, however, the vessels, though few, were very large.

3. This variety has a relatively large epithelial element, with less of the connective tissue, and is, therefore, rapid in its development and soft in character. It begins in the epithelium of the mucous membrane of the cervical canal—a location which would favor rapid growth—and ulcerates outwardly and upwardly, presenting a cavernous opening, with walls which are readily broken down. In my experience this form has been more frequent than the first variety in this series, contrary to the experience of Schröder.

4. This form is less frequently seen than either of the others, and begins in the mucous membrane of the body of the uterus. In Schröder's tables only six per cent. of the cases were of this variety. As it develops, the uterus enlarges from infiltration; a fungous and then an ulcerated mass is found upon the mucous membrane, and subsequently the disease extends to the cervix.

Of course, only a mere outline of these four modes of development of uterine cancer has been attempted; but, with the clinical characteristics *hard* and *soft*, it may be sufficient to furnish the necessary data for differentiation.

Starting with the idea that the development of the neoplasm cancer is caused by the proliferation of epithelial elements at the point or points of irritation, and that there is associated with this process a proliferation of connective-tissue round cells, all the cells being included in an alveolar framework of connective tissue which is more or less abundantly supplied with blood-vessels and lymphatics, according as the progress of the disease is rapid or slow, it has been found that there are at least four methods by which it is propagated:

1. By direct extension into the surrounding tissues, displacing and destroying them by the greater activity of its elements, and itself breaking down and ulcerating in turn.

2. By invasion of lymphatic ducts and glands, choking and infiltrating them, the cells constantly proliferating in their onward march, and finally entering the blood-current, and depositing themselves in distant parts or organs as *foci* for the formation of secondary growths which continue identical in structure with the primary one.

3. By direct entrance into the blood-vessels, especially the veins, of the original structure, thus infecting the system, and producing secondary growths more rapidly than is the case when the lymphatic system is first traversed. The latter is the usual, the other the exceptional, method by which general infection is accomplished.

4. By auto-inoculation, the infecting epithelium being directly transferred or transplanted from the primary growth to the structure which is immediately contiguous. The existence of such a method has been seriously questioned by some writers; but well-authenticated cases are on record in which it has occurred. In cancer of the uterus it is at least extremely probable that such propagation occurs, as, for example, when epithelium from the vaginal portion of the cervix is transplanted upon the adjacent vaginal mucous membrane.

All the foregoing points were clearly stated in the masterly papers of Coats and Macewen at the Glasgow discussion already referred to, and their order is that which was followed by Macewen.

As yet very little has been said in regard to the operative treatment of these growths, and this is the only rational method of procedure until the great discovery shall be made which Paget has prophesied of a potent agent which, taken internally, shall alter the condition of the cancerous subject in a manner analogous to the effect of mercury upon syphilis.

Without going into the details of the various partial and would-be radical operations, permit me to say that I thoroughly believe in them as the best thing we have at present. Schröder, with indomitable faith and perseverance, has said, "If but one in twenty recovers, still I shall operate"; and I do not agree with Knowsley Thornton in his belief that both the vaginal and the abdominal operations will soon drop out of surgical practice ("Brit. Med. Jour.," Dec. 8, 1883). Even if the limit of life after such operations shall not exceed two years, it seems to me to be worth while to give a woman a reprieve for that period, as long as men like Brennecke can report eighteen consecutive hysterectomies without a death (see Post, "Am. Jour. Med. Sci.," Jan., 1886), and Schröder, Martin, and Staude show results which are almost as good.

The limits of this paper will not permit me to discuss the indications for the various operations, and whether they should be more or less extensive. I must refer you for such matters to the writings of the gentlemen whom I have mentioned, and to those of Czerny, Billroth, Tauffer, Hofmeier, Fritsch, and others.

Let us now consider the question of the palliative treatment of this disease in its later stages. I believe that no one will offer objection to the following propositions:

1. It is the duty of a physician to use all available means to prolong life.

2. If life can not be prolonged to any considerable ex-

tent, it is still his duty to make it as comfortable as possible.

Upon this basis the cancer department of the New York Skin and Cancer Hospital was established and is continued.

By the later stages of the disease is meant those periods in which constitutional infection has almost certainly occurred, and in which the question of radical removal is not dreamed of. The uterus is usually firmly fixed, ulceration exists to a greater or less degree, and the peritonæum, bladder, and rectum have received contributions by extension of the primary growth. Frequently the health of the individual is not shattered, but serious inroads upon it are almost inevitable from the pain, exhausting discharges, and interference with function which have now existed for weeks or months. The plan of treatment which is followed in the Skin and Cancer Hospital is comprehensive, including surgical, medical, dietetic, and hygienic means. It may be objected that the surgery of such cases is not of a very exalted character. That may be true in one sense, but, my friends, it seems to me far better than shaking the head and doing nothing. Besides, it is humane, hence unselfish, hence to be approved.

"It is the good," says Socrates (Plato's "Gorgias"), "and not the pleasant, which is the end of all actions. If we seek for the pleasant, we seek it because we believe it to be the good, and all things ought to be done for its sake," etc.

Assuming that the patient is sufficiently robust to bear the operation, and it really requires very little strength, for the shock and inflammation which follow are usually slight, after anæsthetization she is placed in Sims's position, and a large Sims's speculum is introduced. The scissors are used for the removal of all tissues which can be so removed, and with Sims's curette the vagina and uterus are scraped as thoroughly as circumstances will permit. It must be done rapidly, for the hæmorrhage is sometimes free, and it may be necessary to tampon the cavity for a few minutes with cotton dipped in a solution of tannic acid or some other styptic. There is seldom trouble from spurting arteries, the curetting being a lacerating rather than a cutting operation. The hæmorrhage having ceased and the cavity having been dried, a very large and short Fergusson's speculum is introduced, which not only dilates the vagina but illuminates the cavity of operation. An important detail, which will cause unpleasant consequences if overlooked, consists in packing wet absorbent cotton around the speculum at the vulva and vaginal entrance.*

The bulb of the Paquelin cautery, at red heat, is then carefully applied over the entire field of operation, and is followed by a light cotton tampon, the first piece of which is smeared with vaseline, and the others either with a solution of bicarbonate of sodium or a mixture of iodoform and the fluid extract of eucalyptus. The tampon is allowed to remain two or three days, and the slough will come away two or three days later. If the tissues will then admit it, the cavity is carefully packed with cotton dipped in a thirty-per-cent. solution of chloride of zinc, which may also remain two or three days. Within a week an extensive slough of the entire interior of the uterus may be removed, and an apparently healthy granulating surface of the remainder of the organ will usually be found. Subsequent surgical treatment may consist of vaginal irrigations of hot water and suitable topical applications, astringents and disinfectants being of course selected.

In a few cases in private practice my esteemed friend, Dr. J. E. Janvrin, who is the head of the cancer department of the hospital, has used a paste made from the Brazilian plant *alveloz*, one of the *Euphorbiaceæ*, which has only recently been brought to this country, as a topical application, not only for cancer of the uterus, but for cancer of the rectum, the breast, and the face, and he has expressed great satisfaction with the results thus far. None of the cases of uterine cancer have been in advanced stages, however. The effect is caustic, but the pain does not last very long, and the result, as I have seen it in a case of cancer of the right frontal region of many years' duration in a woman nearly seventy years of age, is to produce a very healthy-looking surface, and to remove the indurated and infiltrated border which marks the advance of the disease. Dr. Janvrin has not concluded from his experiments thus far whether any permanent benefit may be expected from this drug, and whether it acts otherwise than locally.

The hygienic treatment of these cases which are now under discussion consists in removing the patients from the city hospital to the country branch at Fordham Heights. There, upon high and dry ground, small pavilions have been erected, in which all the benefits which can be derived from pure air, sunlight, and quiet and pleasant surroundings are enjoyed.

I regret that the limits of my paper prevent me from dwelling upon this feature of the treatment as its importance deserves.

The dietetic portion of the treatment during the last months of life is, in my opinion, of the highest importance. When the stomachs of the patients will not tolerate the ordinary fare of meat and vegetables, and obstinate gastric troubles usually constitute the most prominent features of the closing scenes of their lives, it seems to me that we can do no better than to pattern our treatment largely after that which is adopted at the beginning of life in connection with that most sensitive of all organs—the stomach of a baby. Milk, therefore, forms the basis of the diet, and it is combined with lime-water or with bicarbonate of sodium; it is taken in the form of kumyss, or in a peptonized form, and, when all of these have failed, it has been used in certain cases, and with great satisfaction, in the cream mixture which was prepared a few years ago by Meigs. It would be quite unnecessary to refer to the indications as to the quantity of food to be given in such cases, or to the proper intervals; these are among the elements of medical practice. Stimulants are used freely with the milk, and it need not be stated that whisky and ammonia are the agents which are preferred. Rectal alimentation is out of the question for obvious reasons. The future may help us in the matter of the endermic use of food in this disease. There is a ray of hope in this proposition when we consider the facility with which oleates are absorbed through the skin. The medical treatment is quite insignificant. With individuals in this condition the stomach is intended almost exclusively for food, and the drugs which would be appropriate enough for many symptoms which are identical with those that also appear in the late stages of cancer are now of little use, or rather they are more likely to harm than to benefit. Opium is used, of course, if it is required, but, under the treatment which has been described, it has been a matter of astonishment to me that so little pain is present, especially when I have seen, post mortem, the enormous secondary deposits in sensitive areas.

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* Previous to the use of the cautery, I would suggest a careful inspection of the field of operation with a small electric light, such, for example, as is used by laryngologists.

Death in many of the sixty-five cases which are in my table has come very slowly, and under far more favorable circumstances than could possibly have existed in the dreary and cheerless places which these poor creatures called their homes. No man need feel ashamed of working in such a cause, even though the results be not brilliant.

In "Muarda," the beautiful story of ancient Egyptian life by George Ebers, one of the most interesting characters is Nebsecht, a physician-priest. With greater enthusiasm for investigation than for the duties of the priesthood, his thirst for knowledge impels him to the dissection of animals, and finally he exiles himself that, among a less superstitious people than the Egyptians, he may continue his studies upon the human body. He demonstrates to his satisfaction that the seat of knowledge is not in the heart, as his priestly education had informed him, but in the brain. Finally he receives fatal injuries while rescuing a young princess from the burning palace of the Pharaoh. As death approaches and he reflects upon the work which he loved, he says to the friend by his couch: "It is not seeing, it is seeking that is delightful." And so, in respect to these most hopeless cases, seeing no cure as yet, still it is delightful to seek for it, to seek to lessen the measure of human suffering.

A REPORT OF
TEN CASES OF ABDOMINAL SECTION.*

By JOSEPH PRICE, M. D.,
PHILADELPHIA.

CASE I.—Mrs. McN., aged twenty-six, white, married twice, married very young, bore a healthy male child at sixteen years, labor normal, was a widow for several years, and enjoyed good health. She married for the second time eighteen months ago. Menses ceased for two months after marriage. She had irregular bleeding, severe pelvic pain, chills, and pyrexia. She remained under the treatment of several physicians. She was sent to the Woman's Hospital, and remained there some weeks. While there pus was discharged freely from an opening about the umbilicus. From the Woman's Hospital she went to the Presbyterian Hospital, and stayed there some weeks. While there free discharge of pus was favored. She came under my care complaining of a swelling on the left side, severe pelvic pain, constant discharge of pus from the umbilicus, and high temperature.

Examination revealed a large, symmetrical, boggy tumor, extending far over to the left of the median line. The uterus was normal in size, but pushed to the right and forward. There was irregular fullness in the left lateral peritoneal pouch. Incision, with free drainage, was urged.

Abdominal section was performed twice in the case of this patient. At the first operation a drainage-tube was placed in an abscess and tortuous sinus anterior to the bladder. Marked diminution in the size of the tumor followed. A small quantity of pus continuing to flow, and some fullness still remaining about the region of the left ovary and tube, I again made a small opening, and introduced a glass drainage-tube into the abscess cavity. The adhesions in this case were too general for enucleation. In all probability it began as an abscess of the ovary or tube.

The cure was not perfect. This date, February 2d, there remains an indurated mass on the left side that will have to be removed to perfect the cure. She is anxious to have the removal.

CASE II.—Mrs. G., aged twenty-four, white, married six years, one child four years ago; forceps delivery, followed by two miscarriages, the last one two years ago at the sixth month. Her ill-health dates from the labor at term. She has been losing flesh and strength. Menses are irregular and painful. Bowels are constipated, and defecation is painful. Pelvic pain is present, especially on the left side.

Examination revealed both ovaries enlarged and adherent. Uterus large, retroflexed, and bound down in the hollow of the sacrum.

Diagnosis.—Incipient cystoma.

This woman had passed through several hospitals. Local and general treatment had been given full trial. Abdominal section resulted in the removal of large adherent cystic ovaries. Tubes thickened and occluded. Rapid and perfect recovery followed the operation. She has increased in flesh and strength, and is at present enjoying excellent health.

CASE III.—Mrs. R., aged twenty-seven, white, married eight years, two children, last six years ago; labors normal. At present she is living the life of a prostitute. Early in September she was told she was probably pregnant, and, after leaving the dispensary, she brought on an abortion by first trying to force air into the uterus; this was followed by the free use of the crochet- and knitting-needle. General purulent peritonitis followed. Examination showed the abdomen distended; there were pain and high temperature. She was dying of septic poisoning.

Abdominal section was made, and the intestines were found adherent throughout. The finger was passed through the cellular tissue in front of and posterior to the uterus, emptying numerous pus-pockets. The intestines were separated. Free irrigation was employed, and a large quantity of pus and lymph washed out. A large rubber tube was laid between the intestines above, and a glass drainage-tube was introduced into the pelvic cavity. The peritoneal cavity was irrigated thrice daily for five days. The rubber tube was removed on the fourth day, the glass tube remaining until the discharge ceased on the tenth day. She made a good recovery, and is now a picture of health.

CASE IV.—Mrs. N., aged thirty-six, white, married, one child twelve years ago. Miscarriage six years ago. She has been suffering pelvic pain on the left side for the last twelve years, with chills and high temperature at times. There were great emaciation, constant nausea, and rectal and vesical disturbance. She has been treated by numerous good physicians. Her suffering when she came under my care was very great. Locomotion was impossible. She ejected everything she took into her stomach.

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* Read before the Philadelphia County Medical Society, January 26, 1887.

Examination revealed general abdominal tenderness, the uterus retroposed and pushed to the right, and a small ovarian cyst, lying between the uterus and bowel, firmly adherent to the surrounding viscera, and of about the size of an orange.

Diagnosis.—Ovarian cystoma of the left side. Abdominal section was performed, and a small ovarian cyst, with tube, enucleated. There was salpingitis, with muco-purulent contents. There was no shock or nausea. No catheter or opium was used. Although she had been under the influence of opiates for years, none have been given since the operation. Her improvement has been all that could be expected in one so long ill and run down in general health.

Case V.—Kate A., Polish, married, mother of two children, the youngest of whom is two years old. She has had one miscarriage; is pale and anæmic; has menstruated regularly at intervals of three weeks. Previous to present treatment there was a delayed menstrual period of two weeks, during which she suffered with nausea and acute agonizing pelvic pain. The flow, when established, continued for two weeks.

Examination revealed the uterus retroposed; the left ovary and tube large, prolapsed, and adherent; the distended tube and firm ovary easily mapped out; marked tenderness; high temperature; feeble pulse.

Operation.—Upon entering the peritoneal cavity there was a gush of blood and clot, the pelvic cavity being filled with clot. The left ovary and tube, both large and covered by adherent clots, and filling the pelvic cavity, were removed. There were adhesions to the surrounding pelvic viscera. Free irrigation with distilled water was employed. No drainage. Recovery was rapid.

Macroscopical examination showed a ruptured tube full of clot with all the characteristics of tubal pregnancy, but, as no microscopical examination took place, it is impossible to say definitely.

Case VI.—Lizzie B., white, aged twenty-seven, a prostitute. She was never pregnant, her menses always having been irregular and scant. Never enjoyed good health. At present is pale, anæmic, and greatly emaciated; complains of severe pain in the pelvis, with pain on locomotion. Micturition and defecation are painful; there is diarrhœa; pulse 132; chills; high temperature, being 103° at night.

Examination showed the pelvis completely filled; the uterus small, in front and to the right; irregular, tortuous, boggy masses to the right, to the left, and posteriorly.

Section urged and made the following day. A small and short incision was made. The pelvis was filled with pus-tubes; there were abscess of the right ovary and cyst of the right broad ligament as large as a cricket-ball. Adhesions were general and firmly organized. Complete removal of tubes and cyst of broad ligaments was made, the cyst being first tapped. Free irrigation with distilled water was employed; a glass drain was used, followed by a short rubber tube. There was no discharge; the tube was removed on the fourth day. Rapid and perfect recovery.

Case VII.—Clara D., white, aged twenty-one, married; one child and one miscarriage two months before treatment. She had swelling and pain in external genitals; great pelvic pain and burning; locomotion painful; feverish, sleepless, and without appetite.

Examination showed that the uterus was in good position, slightly movable. A symmetrical tumor as large as a base-ball was found to the right. It was extremely tender to the touch; pulse, 120; temperature, 101·5°. Removal of mass urged.

A large pyosalpinx was removed; adhesions were general and firm; free discharge of pus occurred from the tube during the operation. Tube cheesy; omentum, which was adherent over mass, perforated in operation. A glass drain was inserted and removed on the second day, followed by rubber tube for two days. There was no discharge; rapid recovery. No opium nor catheter, and bowels regular.

Case VIII.—Emma C., colored, aged thirty-four, married, four children, two miscarriages. Last child was born three years ago, followed by post-puerperal trouble. Ever since she has had pelvic pain and painful locomotion, losing at the same time flesh and strength. Chills, high temperature, furred tongue, and insomnia were also present. On examination, the pelvis was found full of irregular, sausage-like masses. Uterus to the right; the left tube large and boggy. Section urged and made the next day. Long pus-tube and ovarian cyst on left side were completely enucleated, requiring extensive tying. There were adhesions to the uterus, the hollow of sacrum, and pelvic walls. A glass drain was used up to the fourth day, followed by rubber. Rapid recovery.

Case IX.—Mazie G., white, prostitute, aged twenty-two. She had one child three years ago, followed by three or more criminal abortions. There had been pelvic inflammatory trouble ever since, the patient never being free from pain. Was losing flesh and strength; temperature 101°, pulse 110, sleepless, and capricious appetite. On examination, the uterus was found low down, retroflexed, and adherent. The tubes and ovaries were prolapsed and firmly adherent to the uterus, bowel, and sacrum. Operation was made the next day. Removal of the right tube and ovary was found to be impossible. The left ovary and tube, which was as long as the middle finger, tortuous, cheesy, and full of pus, were removed, with considerable bleeding. The bleeding proceeded from the torn adhesions and the tube severed by the first ligature. A glass drain was inserted; metrostaxis occurred in twenty-four hours. She had good nights. On the first night one sixth of a grain of morphine was given; there was free bloody discharge from tube. On the second day the pulse and temperature were normal. Fourth day she was eating and sleeping well. Twelfth day the rubber tube was taken out, leaving a small track. General condition excellent.

Case X.—Florence B., white, aged seventeen. Menses at eleven years, prostitute at thirteen. Has been in two reformatory homes, but as yet has experienced no change of heart. She had given up her occupation for rest and treatment, pelvic pain and tenderness being too great for her to follow it.

Examination showed that her general health was poor; she was small and greatly emaciated; had high temperature and feeble pulse. A small ovarian cyst and tortuous boggy tube were found on the right side; adhesions general. The cyst and tube were enucleated. The tube was filled with pus throughout its entire length. The left tube and ovary were healthy. No drainage was used. During convalescence she was free of pain, happy, and comfortable. Two months after the operation the same conditions developed on the other side. Operation to be done.

Six of this group were drained, all of whom would probably have died without it, in spite of careful toilet. My experience is that the utmost vigilance must be exercised to prevent stagnation of fluids in the pelvis and other points. In purulent peritonitis the drainage must be favored from all points of the abdominal cavity. The statement of Dr. Keith, that "it seems to be simply impossible to kill some women, be the putrid mass left in the pelvis what it may," may hold good in Scotland, but it will not in America.

Most of this entire group of patients were feeble, half-starved, greatly emaciated, the victims of hectic fever and exhaustion. Taken altogether, they were most unpromising subjects. The few fairly healthy recovered rapidly and without a bad symptom. Metrostaxis came on in all cases by the thirty-sixth hour. The homes and surroundings in these cases were far from being in good hygienic condition.

An eminent teacher and author went abroad with the object of comparing methods, "to explain why our results in America have not yet, as a rule, reached the high rate of success attained by the best operators abroad." I can venture to say, without fear of successful contradiction, that a careful study of the work of American operators will not show their results to be inferior to those of the operators abroad.

With one exception, that of Mr. Lawson Tait, the success of American operators compares favorably with, if it does not exceed, that of the operators of the Continent. Mr. Tait's success has been marvelous; indeed, phenomenal. He exceeds the world in number of cases, and his per cent. of mortality is the lowest yet attained. The mortality of numerous American operators is now small. Dr. John Homans, of Boston, in his first series of 100, lost 13, taking cases as they came. He has had a run of 38 recoveries. In referring to this work, Dr. Homans says: "This is about as well as I can do, unless I refuse the desperate cases." Dr. Robert Battey, of Rome, Ga., one of our veteran American surgeons, gives us a showing of 70 consecutive cases, with 68 recoveries and 2 deaths. Dr. Thomas, of New York, and Dr. Drysdale and Dr. Goodell, of this city, are operating with excellent results, their mortality being exceptionally small.

Numerous Eastern and Western operators are now making a wonderfully good showing. In comparing the work and results of American operators with those of Great Britain, the profession must take into consideration the number of operators in the respective countries. In Great Britain they may be classed as experts. You can easily count upon your fingers the names of those who have attained prominence in abdominal surgery, and the names are of men who have made that branch of surgery a specialty.

More than one half of my abdominal sections have been done for pus, and I shall never again "allow a case of peritonitis to die without at least proposing abdominal section as the proper course." I am now fully confirmed in the opinion, from my own experience, that suppurative peritonitis must be treated like any other abscess to secure the same results. The pus must be cleared out by abdominal section, irrigation, and drainage. Further, I am convinced that more recoveries will follow the knife and drainage than the old "sheet-anchor" treatment of opium and poultice. While the use of the knife may be regarded as a bold and heroic measure, it must be remembered that the disease is uniformly fatal. This fact furnishes the justification for heroic treatment to avert the dangers which await the patient. The surgeon must be prepared, in a disease that progresses certainly and rapidly to death, to take active steps in the line marked out by well-known surgical laws.

Now that Listerism is all the rage, a few words as to it. I will not here dwell upon the varied forms in which it is applied. I am not a convert to a belief in any of the many solutions. I am fully satisfied with, believe in, the entire efficiency of the gospel of cleanliness. In this matter of cleanliness the Germans are now scrupulous. Dr. Emmet says he "heard Professor Lister himself say that one operator in Germany was so conscientious a believer that he and his assistant surgeons always scrubbed their heads with carbolic-acid solution and a nail-brush before undertaking any capital operation." The most successful of British ovariotomists have long since rejected Listerism. Dr. Emmet says of the work of Bantock and Thornton:

> "I followed their patients after each operation until the sutures were removed. I saw patient after patient in the service of each recover without a temperature over a hundred, and with a perfect line of primary union. So far as I could see, their results were equally good. There is also not much to choose between them in the matter of skill. They are both fine operators. Yet, strangely enough, each ascribes his especial success to absolutely contradictory causes. Thornton believes in the specific effect of consistent Listerism. Bantock believes the use of carbolic acid or corrosive sublimate absolutely deleterious to the patient, and uses water directly from the main." J. Knowsley Thornton, in a correspondence with Professor S. D. Gross, published in the "Medical News," January 27, 1883, p. 117, says: "I think my own mortality (328 cases, 10·67 per cent.) answers your question as to the value of the spray."

At a meeting of the International Medical Congress, held in Copenhagen, August, 1884, Mr. Thornton reported that he had performed 423 ovariotomies, with 40 deaths, a mortality of 9·45 per cent.*

It may, with equal justice, be said of Dr. Bantock's mortality that it answers the question as to the value of Listerism. He uses no spray and no solutions, and his mortality is as follows:

Statistics to April 26, 1886.—Ovariotomy.

Total mortality	13·5	per cent.
Mortality before Listerism	25	"
" under strict Listerism	22·2	"
" after abandonment of Listerism	10·5	"
" of last 73 cases, 3 deaths, or	4·1	"
" of last 54 cases, 2 deaths, or	3·7	"
" of last 37 cases, 1 death, or	2·7	"

A prominent teacher and operator, writing, says: "By operative skill, by cleanliness, and by wise hygienic measures, the fatality has been reduced to about 25 per cent." At that time he recommended the use of "old sheets, old comforters, old pillows, old carpets." In his last production he recommends "clean sheets, clean blankets, clean comfortables, and clean pillows." With this simple change to cleanliness, this writer and skillful operator has a very marked change in his own mortality. In 44 cases, 40 recoveries, 4 deaths.

I would state that on this occasion I have made only casual reference to the statistics of a few eminent operators to serve a special purpose, and have made no attempt at accurate and extended statistical research; that task I reserve for a work in hand.

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* It is difficult to reconcile some of the excuses given for high mortality. In point, Mr. Thornton attributes his large mortality in hysterectomy as compared with that of ovariotomy (under 4 per cent.) to the fact that, in the majority of the former operations, it is impossible to carry out strict antiseptic or aseptic surgery.

FORCED INSPIRATION IN PNEUMATIC DIFFERENTIATION.

By WILLIAM B. WOOD, M. D.

Two cases, recently under my observation, have served to bring out very clearly some points of practical value in pneumatic differentiation, and especially to individualize the action of forced inspiration used alone.

Case I.—Mr. G., aged thirty-six, began about December 1st to have a dry cough, notably upon quick exertion, and to be troubled with shortness of breath. The cough increased until December 20th, when there developed pain in the infra-mammary region. Upon examination of the patient at his house, creaking and crackling sounds were heard over an area about three inches in diameter. There was an evening temperature of 101·2°, and a pulse of 100 to 110. After ten days' care at home it seemed safe for the patient to come to my office for cabinet treatment. At this time there were no friction sounds, but there were dullness on percussion, diminution of respiratory murmur, and the same tendency to cough on quick exertion, with diminished respiratory movement of the lower right chest. December 29th, the first time this patient was put into the cabinet, he was allowed to remain five minutes, the forced inspiration alone being used under a vacuum of four tenths of an inch. The object was fully to dilate that portion of the lung beneath the affected pleura, and thus re-establish at once the normal respiratory act and capillary circulation in that crippled area. It was hoped that, if this could be done, nature would completely clear up the pleural trouble. On coming out of the cabinet after this first treatment, Mr. G. took the first long breath he had drawn in weeks, expressed a "sense of relief," and went immediately to his office. He continued daily after that to attend to his business, meanwhile having no cough, no pain, no shortness of breath, and no rise of temperature.

A week later he was given a second cabinet treatment similar to the first. At this time examination failed to disclose any dullness on percussion or diminished respiratory murmur over the affected side.

Case II.—Mr. B., aged thirty-nine, had an old pleurisy with a contracted right lung; the left lung showed prolonged expiratory murmur, emphysema, and bulging. There were frequent paroxysmal fits of violent coughing of a most distressing character, which nothing but morphine would control. The patient would cough from fifteen minutes to an hour after the effort of crawling slowly up a single flight of stairs. When cabinet treatment was applied in this case I withdrew all medicines except tonics. As in Case I, the forced inspiratory act alone was used, with a vacuum of from two tenths to eight tenths; time, five minutes. After the first treatment Mr. B. went home, and walked up two flights of stairs without distress or paroxysm of coughing, which he continued able to do. The single act of forced inspiration under from two tenths to eight tenths vacuum, five minutes each time, was continued in this case for two months, at intervals of six days, aggregating ten treatments. The patient had freedom from fits of coughing for three or four days after each treatment; then the tendency to cough returned to some degree, until it was checked again by the next cabinet treatment. The object of confining the treatment to the single act of forced inspiration was to individualize its action.

The patient showed his maximum gain after the third treatment. Examination showed a loss of one inch in the semicircumference of the bulging left side, and a corresponding gain in the right contracted side.

The patient also during this time increased his weight one pound. There was no subsequent gain or loss or any notable change in physical signs. It also gradually became evident that this treatment would be unsafe if the vacuum were increased or the time of treatment prolonged much over five minutes. But, upon giving this patient pneumatic differentiation—the combination of vacuum and pressure treatment—a further and progressive improvement ensued.

It would seem, then, that forced inspiration must be employed with caution, and can not be used alone either long at one time or many times repeated with the hope of increasing benefit; and that the maximum gain will be reached after a very few treatments of short duration under a vacuum of from two tenths to eight tenths of an inch.

In such cases as the first one given, the act of forced expiration might have rekindled the pleuritic trouble by too violently stretching the pleural surfaces apart, while the single act of forced inspiration expanded the lung to the normal condition, and re-established the capillary circulation in that portion involved by the affected pleura.

This experience convinced me not only that in cases of recovering pleurisy the application of forced inspiration alone is the appropriate and a sufficient procedure, but that in cases of bronchial or alveolar disease the forced inspiratory act alone not only is insufficient, but, if continued, may be positively injurious. The lung demands that the rest and compensation of forced expiration should follow forced inspiration.

PERITYPHLITIS:

OPERATION; RECOVERY.

By J. E. SUMMERS, Jr., M. D.,

OMAHA, NEB.

In the January 15th issue of this Journal appeared the report of a discussion in the New York Surgical Society, following the reading of the notes of a case of "Laparotomy for Suppurative Peritonitis from Acute Perforation of the Vermiform Appendix," by Dr. Weir. The following case is of interest as bearing on several of the points brought out in the discussion:

Mr. P., aged thirty-six, was taken sick on January 1st with the usual symptoms of perityphlitis, and was seen by me on the night of January 3d (I had treated the patient in September, 1886, for the same trouble, the tumor ending in resolution). There was considerable accumulation of fæcal matter, which was, in part, removed by castor-oil, cautiously administered, and by enema; opium was given to control pain. The temperature ranged from 99·5° F. to 102° F.; there were no chills nor sweating.

On the eleventh day the dullness had extended over most of the area bounded by Poupart's ligament, the median line, and a line joining this latter with the anterior superior spine of the ilium. There was doubtful deep fluctuation. An aspirating needle introduced two inches and a half into the upper part of the tumor, where pus was suspected, removed half an ounce of very foul-smelling pus. A few hours later, under ether, an incision three inches and three quarters long, parallel with

Poupart's ligament, was made, and at a point in the lower half of this incision several drachms of pus, in character the same as that obtained with the aspirator, were removed. The finger, when introduced, passed into a cavity bounded above by the anterior abdominal wall, below by a mass of intestines, the tumor. The finger passed at one point toward the median line into the general abdominal cavity; whether this opening was made by me I cannot say; no sensation of resistance was perceptible. The finger (index) could also be passed its whole length directly into the mass of intestines. No foreign body was discovered. The needle, as passed, certainly removed the pus from the first of these communicating cavities, and the incision carried through the peritonæum where the needle had pierced it, opened the general cavity, the sac and peritonæum not having adhered; the latter, however, was much thickened. The intestines presenting at this false incision were congested and covered with lymph. The peritonæum was united with carbolized iron-dyed silk, and the muscles and skin were closed with the same kind of material. A drainage-tube was introduced into that part of the cavity surrounded by intestines, and antiseptic dressings were applied. Convalescence was interrupted by an attack of pleurisy of the right side, which was almost completely filled with an effusion. No fæcal matter was discharged from the wound, but intestinal gas frequently escaped at the dressings, and at other times, the patient complaining of a sensation as if the whole wound were "ripping open."

The wound is almost entirely closed at the present writing, January 30th. This was undoubtedly one of those forms of abscess *not* external to the peritonæum. The opening of that part of the abdominal cavity not involved in the inflammatory condition was due to my belief that at the point where the needle had penetrated there must be adhesion between the peritonæum and the sac, especially as the former was so much thickened and changed in appearance.

Correspondence.

LETTER FROM LONDON.

Mr. Savory's Hunterian Oration at the College of Surgeons.—Nephro-lithotomy at the Clinical Society; the Lumbar Incision as compared with Laparotomy.

London, *February 15, 1887.*

Yesterday afternoon Mr. Savory, F. R. S., the senior surgeon to St. Bartholomew's Hospital, delivered the Hunterian Oration at the Royal College of Surgeons. Hunter, he told us, was pre-eminent among surgeons because he had been and still was, beyond and above all surgeons, a philosopher in surgery. His idea of the subject of his thoughts was far more adequate than that of other men. He was supreme in the scope and method of his work. He understood much better than those around him how to engage in the interpretation of nature; he knew best how to approach and to disclose truth. He was ever searching for principles, but strove to reach them only through facts, and an explanation of the facts themselves could only be arrived at through physiology. The fact that Hunter was not what would be called a well-educated man is well known, and many have avowed that had he received a better general education to start with, he would never have done the work he did. Mr. Savory contended that had he received a good general education in early life, he would have been all the better for it; he would have lost nothing, his mental powers would have been in no way impaired—on the contrary, they would have been enhanced. He would have recorded the result of his labors in better order, with more light and better effect, and we should have had the advantage of a clearer revelation of his thoughts. Hunter was no scholar, but, "if a transcendent knowledge of Nature and her ways, if a firm and ample grasp of her noblest truths be accounted education, if the devotion through a life-time of gigantic intellectual powers and a truly loving heart to the reverent study of God's works be culture, then Hunter, though not a man of letters, was surely an educated man."

The fame of Hunter in reality fell far short of him; it was only after a review of the whole of his vast labors in their mutual relation, not merely after a study of the merits of his numerous papers, each taken by itself, but in an attempt to apprehend the scheme to which all his labors were subservient, that we were in any measure able to realize the strength of Hunter's genius. Of all men who had acquired greatness, Hunter required to be studied with the greatest diligence, and this was partly due to his lack of literary style; but he was a man supremely endowed with power and faculties for the discovery of truth. With little education at the outset of life, without the advantage of the schools, Hunter found himself face to face with the deepest and most mysterious problems of nature, and he was forthwith able to take full measure of the magnitude of the task.

Mr. Savory concluded with an earnest appeal that the museum of which Hunter laid the foundation with his own hands and with his whole heart should for ever be made worthy of his name. Mr. Savory spoke for exactly an hour without hesitation or faltering, and without even a note to remind him in case his memory should fail him, and the close of the oration was received with tremendous applause. I have heard several lectures and orations in the same place, but none which could compare with this either in elegance of diction or in grace of delivery, and there can be no doubt that Mr. Savory has proved himself worthy of a place among the first orators of the day.

On Friday last there was an interesting discussion at the Clinical Society on nephro-lithotomy, following on papers by Mr. Henry Morris and others on the subject. The point of the debate was whether it was best to explore the kidney and remove the stone by the lumbar incision or not. The chief opponent of this plan was Mr. Knowsley Thornton, who, in a rather long but otherwise excellent speech, advocated strongly the so-called combined method, viz.: opening the abdomen first and exploring the kidney, and then fixing it with one hand in the abdomen to cut down on it through the loin and remove the stone. His contention was that in this way both kidneys could be explored, and so the risk of leaving the real source of the mischief untouched would be avoided. There is no doubt, explain it how we will, that sometimes the pain is referred to the sound kidney, and an exploration from the loin of course then fails. Mr. Thornton quoted a very interesting case in which five calculi were found in one kidney, though the symptoms had all pointed to the other kidney, which appeared sound, as being the affected one. The chief grounds of objection raised to the combined method, apart from a preliminary objection to so formidable a step as laparotomy, were that it was sometimes quite impossible to feel a small stone in a kidney, even with the organ in one's hand, immediately after its removal from the body, and that, therefore, the recognition of a stone was not absolutely certain by the combined method, so that for all practical purposes the lumbar incision might be regarded as affording all the information likely to be gained.

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THE ARTIFICIAL CULTIVATION OF VACCINE.

The period from 1883 to 1886, inclusive, constituted, as some of our readers doubtless are aware, the term during which it was open to competitors for the First Quadrennial Discovery Prize of £1,000, offered by the Grocers' Company, of London, to present their achievements in attempts to solve the problem put before them—the artificial cultivation of vaccine lymph, or, more precisely, of the virulent micro organism of vaccinia, without any impairment of its infective character. Among those who essayed the task was Dr. John Dougall, lecturer on materia medica and therapeutics in the Glasgow Royal Infirmary School of Medicine. Dr. Dougall's account of his experiments, a hundred and eighteen in number, runs through several recent issues of the "Glasgow Medical Journal." He writes with the utmost candor, and does not seek in the slightest degree to disguise his failure to accomplish the object in view. It is true that he mentions certain "apparent successes," but, in so far as these were not palpably fallacious, he is careful to state that they included but a mere multiplication of cocci which gave abundant evidence of having lost their infective power. In no instance did the cultivations prove to be inoculable, for Dr. Dougall is undoubtedly correct in assuming that, in the few cases in which feebly developed vaccinal lesions seemed to have resulted from their action, those lesions were really the product of a slight accidental admixture of natural vaccine, as they invariably occurred in close proximity to test inoculations with the latter.

One would think, as Dr. Dougall remarks, "that in the course of a hundred and eighteen experiments, each differing in some respect from all the others, success would even have been stumbled on"—assuming success to have been possible. It would be rash, even on the strengh of so careful and competent an experimenter's failure, however it may tally with theoretical considerations, to assert the impossibility of accomplishing the object he had in view; but it may at least be said that the *a priori* improbability of success is remarkably strengthened by his investigations. When we remember that attempts to preserve natural vaccine virus for a length of time unimpaired are successful in proportion as they involve the rigid exclusion of all conditions favorable to the growth and multiplication of micro-organisms, the vaccine coccus included, the inference is almost unavoidable that such growth and multiplication are necessarily associated with a loss of the microphyte's infective power. The ideal conditions for the preservation of vaccine seem to be those which, while they protect its vitality from destruction, make it absolutely impossible for that vitality to manifest itself in any process of growth or development. To attempt such preservation without regard to these circumstances appears about as hopeless as to force a plant past the flowering stage to that of fructification with the idea of making it more esteemed by florists.

Dr. Dougall's work has not been in vain, however; he has added materially to our knowledge of the natural history of the micro-organism of vaccinia, and those who are engaged in like investigations, however different in their purpose, may take many useful hints from his account. Moreover, he is still decidedly of the opinion that the problem before him admits of solution, and, as he says that the fascination of the inquiry has not failed, we may perhaps be justified in looking for its further prosecution at his hands.

MINOR PARAGRAPHS.

THE CALIFORNIA STATE BOARD OF HEALTH.

The board's "Ninth Biennial Report," covering the period from June 30, 1884, to June 30, 1886, contains abstracts of the proceedings at the quarterly meetings, the report of the Secretary, Dr. Gerrard G. Tyrrell, various statistical tables, and the following meritorious essays: "The Climatology and Diseases of Southern California," by Dr. H. S. Orme, the president of the board; "Irrigation," by Dr. H. C. Crowder, a member of the board; "The Drinking Habit in California," by Dr. W. H. Mays, of the lunatic asylum at Stockton; "The Prophylaxis of Trichinosis," by Dr. Albert Abrams, of San Francisco; a "Report on the Topography, Botany, Climatology, and Diseases of Surprise and Goose Lake Valleys," by Dr. George M. Kober, of the army; "The Coast Climate of California" and "On the Use and Abuse of the Mineral Springs of California," by Dr. John W. Robertson, of Crescent City; "On the Necessity of Quarantine along our Southern Frontier," by Dr. M. F. Price, of Colton; "Yellow Fever in California," by Dr. Alfred M. Perry, of San Francisco; "Yellow Fever considered in its Relation to the State of California," by Dr. Wolfred Nelson, late of the Panama Board of Health; and "Disinfection and Individual Prophylaxis against Infectious Diseases" (republished), by Dr. George M. Sternberg, of the army. The board is to be commended not only for its valuable report, but also for the economy observed in the conduct of its work. The appropriation for each of the two years was $1,250.00, of which $388.16 remained unexpended the first year, and $247.88 the second year.

THE STATISTICAL TEST OF METHODS IN LAPAROTOMY.

At a recent meeting of the Philadelphia County Medical Society, Dr. H. A. Kelly presented an instructive account of his work in abdominal surgery. While admitting that he has a personal pride in his work, he deprecates, most justly as it seems to us, "the bitter spirit which animates so much of the percentage discussion." "The time was," he adds, "when by this means alone, by means of the striking differences which existed, we were enabled to determine, in the absence of personal experience, the relative value of methods; but that time has passed, and with the closure of the chapter on ovariotomy this spirit of emulation survives no longer in the interest of science, but is personal and unworthy of our cause." In the discussion, Dr. Price remarked that at present the surgeon simply presented numbers and percentages of recoveries as representing the exact measure of his skill in operating and his care in the after-treatment. Too great importance had been given to bare statistics, but the growing tendency to hold surgeons strictly responsible for every unfavorable result had stimulated abdominal operators to great carefulness, and consequently the methods of abdominal surgery had become well-nigh perfect.

UNDERGRADUATE PRACTICE IN BOSTON.

We are glad to learn from our esteemed contemporary, the "Boston Medical and Surgical Journal," that the newspaper account to which we alluded two weeks ago, to the effect that a band of Boston medical students had engaged in an enterprise whereby they were practicing under advantages that enabled them to make inroads on the work of the established practitioners, was founded on an erroneous interpretation of the facts by a reporter, who, as our contemporary observes, seems to have confounded instruction in obstetrics with dispensary practice.

A NEW LARYNGOLOGICAL JOURNAL.

The "Journal of Laryngology and Rhinology" is the title of a new monthly publication, of 44 octavo pages, edited by Dr. Morell Mackenzie and Dr. R. Norris Wolfenden, of London, whose names are a sufficient guarantee of the excellence of the work. The first issue opens with an editorial article on "Intubation of the Larynx," and this is followed by a great number of brief abstracts from other publications. From what is said in the prospectus, it seems that this is to be the scope of the new journal, rather than the publication of formal papers entire. The plan, it will be seen, is similar to that on which the "London Medical Record" has been conducted, and not unlike that of the various German "Centralblätter." There can be no doubt that the journal will prove of exceeding value to those who wish to keep the run of laryngological and rhinological literature.

THE NEW PHILADELPHIA JOURNAL.

The early issues of the "Medical Register," a new weekly journal published in Philadelphia, have reached us. It is edited by Dr. John V. Shoemaker, the editor of the "Medical Bulletin," of Philadelphia; and Dr. William C. Wile, the editor of the "New England Medical Monthly." The first number contains reports of clinical lectures by Dr. W. H. Pancoast and Dr. P. D. Keyser, of Philadelphia; original articles by Dr. J. W. S. Gouley, of New York, Dr. H. O. Marcy, of Boston, Dr. Frank Woodbury and Dr. Benjamin Lee, of Philadelphia, and Dr. William Murrell, of London; and an attractive array of editorials, book notices, abstracts, etc. The "Register" is a handsome journal of twenty-four pages. The acquirements and enterprise of the editors may be expected to make the new journal a creditable addition to the list of Philadelphia medical journals, of which there are now three published weekly.

THE POLITICAL SIGNIFICANCE OF A DOCTOR'S MOVEMENTS.

So commonplace a matter as the alleged intention of a well-known German physician of New York to make a visit to his native country has been seized upon by one of the newspapers and held up to the public as another indication of an impending European war, the statement being made that the gentleman is going to Germany at the request of the Imperial Government, to take part in a reorganization of the military hospital service.

DOCTORS' BILLS.

It is a hopeful sign when the newspapers take up the cudgels for our profession. The "Brooklyn Daily Eagle" has lately done so most energetically, and at the same time very judiciously, in the course of some comments on a case in which a physician of that city sued for the amount of a bill for medical services, and the jury awarded the full amount, almost without leaving their seats. The "Eagle" alludes to the well-known hesitation of doctors to sue those who refuse to pay their bills, than which, as a rule, it says, there are none more moderate; but urges upon medical men that it is one of the duties of their citizenship to assert their just claims, with the aid of a resort to the law if necessary—a view in which we wholly concur.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 1, 1887:

DISEASES.	Week ending Feb. 22.		Week ending Mar. 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	9	5	8	4
Scarlet fever	31	7	63	15
Cerebro-spinal meningitis	3	3	5	5
Measles	269	33	250	34
Diphtheria	69	28	55	38
Small-pox	11	3	20	3

Small-pox Infection from Rags is stated to have occurred lately at Holyoke, Mass., the disease having first made its appearance among the rag-sorters of the paper mills.

The Alumni Association of the Long Island College Hospital held its annual dinner last Tuesday evening, at Remsen Hall, Brooklyn. The goodly attendance and the enthusiasm displayed were fresh reminders of the creditable career of the college and of the warmth with which its alumni esteem it—and not they alone, we may add, but all who have had the opportunity of observing its course.

The New York Polyclinic.—The annual reception was held at the college building, in East Thirty-fourth Street, on Wednesday evening of this week. The occasion gave abundant evidence of the continued prosperity and excellent management of the school.

The Long Island College Hospital held its commencement exercises at the Brooklyn Academy of Music on Wednesday evening, when the degree in medicine was conferred on thirty candidates.

Professor Virchow, it is announced, was elected to the Reichstag at the recent election.

The Deutsche Poliklinik.—Last Tuesday evening the Thalia Theatre company gave a representation of "Der Vagabund," at the Academy of Music, for the benefit of the Poliklinik.

Society Meetings for the Coming Week:

Monday, *March 7th:* New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association (annual); Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *March 8th:* New York Medical Union (private); Medical Societies of the Counties of Chemung (Elmira) and Rensselaer, N. Y.; Newark (private) and Trenton (private), N. J., Medical Associations.

Wednesday, *March 9th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Societies of the Counties of Albany, Cayuga, and Montgomery, N. Y.; Pittsfield, Mass., Medical Association (private); Worcester, Mass., District Medical Society (Worcester); Philadelphia County Medical Society (conversational).

Thursday, *March 10th:* Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *March 11th:* New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *March 12th:* Obstetrical Society of Boston (private).

OBITUARY NOTES.

Lewis Fisher, M. D., of New York, died at Jacksonville, Fla., whither he had gone on account of the state of his health, on Tuesday, the 1st inst. Dr. Fisher was a graduate of the Medical Department of the University of the City of New York, of the class of 1861. Soon after the outbreak of the War of the Rebellion he entered the medical corps of the army, and served with distinction. At the close of the war he settled in practice in Morristown, N. J., where, in the course of a few years, he achieved a decided reputation. He subsequently came to New York, where he continued in practice until a few months ago. Dr. Fisher was a man of unusual mental capacity, and he was held in high esteem by his patients and by his professional brethren. He was forty-seven years old at the time of his death.

Letters to the Editor.

MULTIPLE PARACENTESIS OF THE MEMBRANA TYMPANI.

49 West Fifty-seventh Street, *February 26, 1887.*

To the Editor of the New York Medical Journal:

Sir: Dr. Pomeroy, in his article on "Cases Exhibiting the Results of Multiple Paracentesis of the Drum Membrane on the Hearing in Chronic Aural Catarrh," makes some statements about me which are not justifiable. By giving a history of the operation performed by me I can best explain the assertions made by Dr. Pomeroy.

In July, 1885, I was treating a patient suffering from chronic catarrhal inflammation of the middle ear. At the end of two weeks he was not improving. I had employed the usual methods of treatment, except paracentesis for drainage and ventilation. Knowing that paracentesis was not injurious in itself, even if not beneficial, I tried it, with the faint hope that some benefit might follow. One puncture seemed to do good, and, on my own responsibility, I made many punctures, with the hope of getting more improvement. The patient was markedly improved. I told Dr. Pomeroy. He was incredulous. I took the patient to his office, and Dr. Pomeroy was partly convinced that what I professed to have done was true. Next, I asked for a test case from the hospital, and, after repeated petitions, a deaf-mute was given me to treat. Dr. Pomeroy said at that time that he did not believe I could help the patient. After a month's treatment, the deaf-mute was better. Dr. Pomeroy then examined the patient, and admitted that the operation was a good one. This was early in November. From that time he became very enthusiastic over the operation, and advocated it for all suitable cases. In my article on the subject, to which Dr. Pomeroy alludes, I thanked him for the personal kindness he had extended to me.

In conclusion, I would add that for a brief time I was the subject of some ridicule for so-called preposterous pretensions, until the proof showed to the contrary.

W. H. Bates, M. D.

AN ACCIDENT IN INTUBATION OF THE LARYNX.

Troy, N. Y., *February 26, 1887.*

To the Editor of the New York Medical Journal:

Sir: The following case illustrates a possible accident in the procedure of intubation of the larynx. It occurred under the observation of Dr. J. B. Harvie and myself. The patient, a child about three years of age, had been ill with diphtheria for three or four days, when the laryngeal obstruction became so severe that intubation was undertaken as a means of relief, though the prognosis from the general effect of the disease was grave. The tube (O'Dwyer's) was inserted at the second attempt, but, on withdrawing the "core," respiration was found to be completely obstructed. The withdrawal of the tube improved matters very slightly as far as inspiration was concerned, expiration being apparently nearly entirely obstructed. Concluding that the tube had detached and carried in advance the false membrane, thereby occluding its lower orifice, and that, on the withdrawal of the tube, the displaced membrane acted as a valve to occlude the subglottic space, a tracheotomy tube was promptly inserted, and afforded immediate and complete relief. The child died about thirty hours after the operation, but without a return of the dyspnœa and without the development of pneumonitis.

E. D. Ferguson, M. D.

Proceedings of Societies.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of December 20, 1886.

The President, Dr. Charles A. Leale, in the Chair.

The Pathology of Scarlatinal Nephritis.—Dr. Frank Grauer said the subject of his paper was one which had interested the medical profession from both a clinical and pathological point of view, and, although a great deal had been done within the last ten years in the pathology of scarlatinal nephritis, there still existed differences of opinion as to the minute changes which occurred in the various forms of this trouble. The different forms of scarlatinal nephritis which were met with post mortem might be classified, according to Friedländer, as follows: 1. Initial catarrhal nephritis. 2. The large, flabby, hæmorrhagic kidney. 3. Acute glomerulo-nephritis, or nephritis post-scarlatinosa. Initial catarrhal nephritis was the form met with in the first week of the disease, accompanying the exanthema. Its duration was short, and it rarely led to death. Microscopical examination of the urine showed hyaline and mucous casts, more rarely red and white corpuscles, renal epithelium, and granular casts. The large, flabby, hæmorrhagic kidney was not so frequent as the two other forms. It might occur from the first to the fourth week of the disease. It ran a rapid course. The urine might be normal to within twenty-four or forty-eight hours of death. Œdema rarely occurred. It was found especially in cases accompanied by extreme angina and diphtheritic inflammation. The kidneys were enlarged and softened; the cortical substance was thickened, grayish-red in color, and studded with ecchymoses and hæmorrhagic infiltrations. Microscopically, the tubules were found to contain the various forms of casts, red blood-corpuscles, degenerated epithelium, and an increase in the connective tissue characterized by a round-cell infiltration situated mainly around the glomeruli and between the convoluted tubules. The third form was found in the third and fourth weeks of the disease. The patient was apparently convalescing when œdema was noticed about the eyes and lower extremities. The urine contained albumin, was diminished in amount, and had a high specific gravity. It contained red and white blood-corpuscles, renal epithelium, and hyaline, epithelial, blood, and granular casts. As the process increased, the urine became bloody, varying in color from a slight smokiness to a dark red. Fluid accumulated in the abdominal, pleural, and pericardial cavities, and in some cases there was complete suppression of urine, followed by death. Nine cases of glomerulo-nephritis which he had examined in the pathological laboratory of Dr. Carl Friedländer had shown the following changes: The kidneys were enlarged and hyperæmic, the cortical substance was slightly thickened, but there was no loss of cortical striæ. The glomeruli were pale, prominent, and more or less enlarged. Microscopically, the uriniferous tubules were apparently normal; occasionally in some tubules a slight parenchymatous change was present. The glomeruli were enlarged and bloodless. The capillary loops were dilated and filled with a mass of nuclei, which proved to be the nuclei of proliferated endothelial cells, and not white blood-corpuscles. There were also swelling and proliferation of the glomerular epithelium. Proliferation of the capsular epithelium, as described by Klebs, was not observed, although it occurred in certain forms of scarlatinal nephritis. From these examinations the author thought the conclusion could be drawn that the change was a proliferation and thickening of the endothelial cells, which produced obstruction to the circulation of the blood through the capillaries, and not a compression of the capillaries by proliferation of the glomerular epithelium, as had been supposed. In injected specimens the vasa afferentia were dilated to twice or three times their normal size. The loops of the capillaries were not injected, showing that there was an obstruction in them.

Dr. Austin Flint said that formerly the opinion had prevailed that the solid constituents of the urine were secreted by the cells of the convoluted tubules, while the glomeruli, or Malpighian bodies, had to do with the transudation of the liquid element. Afterward the view prevailed that the Malpighian bodies participated largely with the cells of the convoluted tubules in the liberation of the excrementitious constituents of the blood. But another change of opinion among physicians, and shared by him, had taken place in favor of the older view. The pathological condition known as glomerulo-nephritis had been only recently recognized, its discovery being due to improved modes in microscopical study. The subject of uræmia, referred to in the paper, was one which had greatly interested him, and one regarding which he had formerly entertained very decided opinions; he was now emphatically of the opinion that his former views would bear revision. Within the past year he had examined the excrementitious matters of the urine to a considerable extent, and sometimes a doubt had risen in his mind as to whether urea was a poison. He thought from some of these recent investigations that probably water as it was produced in the body was an excrementitious substance—an innoxious one—for certainly water in excess in the body did not act as a poison. Recalling some old experiments, it would be seen also that carbonic-acid gas was not in itself a poison, for animals inhaling this gas, and at the same time an increased amount of oxygen, did not die. It was undoubtedly true, however, that the kidneys were necessary to life, as animals died when both were removed. As to the cause of death, it was attributed to uræmia. He believed that the parenchymatous degenerations observed in so many acute diseases were due very largely to the elevation of the temperature, a point which had not been mentioned in the cases reported; that the direction which the parenchymatous degenerations took was determined, at least in many cases, by the character of the poison which gave rise to the fever. In scarlatinal nephritis there was diminution of the urine, with an increase of its specific gravity, and the quantity of albumin was frequently large. Why was it, he asked, that the cells of the convoluted tubules separated the solid constituents, while the Malpighian bodies failed to pour out water to wash away the solid elements?

Dr. Isaac E. Taylor referred to cases of death within forty-eight hours after the commencement of scarlatina, and queried as to its cause; whether it was a profound impression of the poison upon the nervous system.

After some further remarks by other gentlemen, Dr. Grauer closed the discussion, and said, with regard to whether, in complete obliteration of the glomeruli, the epithelium of the convoluted tubules could perform the work of the kidneys, that he had examined the kidneys in one case in which there had been complete anuria for twenty-four hours, and found the tufts completely obliterated. Here the epithelium lining the tubules had not been able to do the work. As to Dr. Taylor's question, he said that all the cases with complete suppression of the urine and early death, examined microscopically, showed acute glomerulo-nephritis. Whether in any case a nervous trouble would cause suppression of the urine, he was unable to say. The majority of cases of scarlatinal nephritis ended in recovery, but a few passed on to chronic kidney trouble.

NEW YORK SURGICAL SOCIETY.

Meeting of January 26, 1887.

Dr. Robert F. Weir, Chairman.

(Concluded from page 245.)

Operation for the Relief of Carcinoma of the Rectum.—Dr. Lange presented a patient, sixty-five years of age, with paralysis agitans, the result of prolonged submersion in icy water several years before. He had entered the German Hospital in October complaining of difficulty in defecation of four months' standing. On examination, it had been found that he had an adeno-carcinoma of the rectum, and the diseased growth had been removed in the usual manner, four inches of the gut being excised. The wound had healed well. There had been some constriction a short distance from the anus, probably due to contraction of the sphincter tertius. He had had control over his bowels until he reached the closet, but had been unable to have a thorough evacuation, so that he was inclined to have another movement soon after. In this case no attempt had been made to unite the ends of the levatores ani, and the patient had been obliged to wear a supporter. In another patient in whose case this had been attempted, on introducing the finger into the rectum it had been evident that there was some voluntary muscular action. [In connection with the case Dr. Lange exhibited two specimens of cancer of the rectum and one of melanotic sarcoma, the latter, he remarked, being quite rare.]

A New Operation for Prolapsus Ani.—Dr. Lange related the history of the following case:

"For almost twenty years Mr. P. G. has been suffering from prolapsus recti, with more or less incontinence. It seems that an inflammatory disease of the rectum (probably dysentery), accompanied with intense tenesmus, was the original cause. He has been operated upon a number of times after the usual methods (cauterization and excision of the mucous membrane), but apparently with only transient and partial relief. After one operation done by my colleague, Dr. Adler, he was improved for several years. Altogether he had undergone five different operations, when, in October last, he was readmitted into the German Hospital. He suffered from incontinence as before. The anal ring was quite relaxed and wide open, and even with slight pressure the rectum was pressed out. The patient assured me that the prolapse was at times worse than ever before, and from Dr. Adler's statement I concluded that formerly the rectum would protrude to the length of fully six inches.

"Not taking into consideration cases of partial prolapse of the rectal wall, we must admit that our methods of treating prolapsus recti do not yield very encouraging results. Once, in pre-antiseptic days, I assisted at the operation of amputating an extensive prolapsed portion after a preliminary operation, the purpose of which was to set up an inflammatory adhesion of the peritoneal layers. The patient died several weeks after from septicæmia. The amputation was done, if I am not mistaken, with the galvano-caustic snare. In our present aseptic era, I believe that such an operation, or a similar one, would be much less dangerous; but the question is, Would the result be lasting? As long as the lower part of the gut is allowed to pass through a widened and relaxed muscular sheath, which is formed by the levator ani and the sphincters, and the lowest portion of the rectum itself remains wide, there is always, I think, a strong probability of recurrence. I therefore, in my method of operating, have tried to meet both indications—to narrow the rectum as high up as possible, and to fix around it a narrowed muscular ring. Anatomical and clinical observation lead me to infer that the levator ani takes an important part in the closure of the rectum. Be kind enough, gentlemen, when the opportunity presents, to place the tip of your finger upon the anus and then try to make that muscular effort by which you prevent the passage of fæces. You will find that your anal orifice is not only lifted, but also slightly drawn forward against the perinæum. This, I presume, is due to the action of those fibers of the levator ani which, in passing behind the rectum and uniting with those of the opposite side, form a strong muscular arch which in contracting must necessarily exert a pressure against the posterior wall of the gut, and in this way cause closure of the same.

"I operated in the following manner: The patient was fixed on the table in the knee-elbow position, a thick cushion placed between his knees and under the lower part of his thorax and the upper part of his abdomen, giving a sufficient support; his legs were tied to the table, and his head rested sideways on a pillow. I have lately performed almost all my rectal operations with the patient in this position, and I can not recommend it enough. The hæmorrhage is decidedly diminished, the parts are all more accessible, and the principal vessels can nearly all be secured before they are divided.

"An incision was carried from the lower part of the sacrum down to the anus until the posterior wall of the rectum is reached. I then removed the coccyx, for two reasons—first, I wished to narrow the gut as high up as possible, and, secondly, I thought that the proposed action of the levator ani might thus become less impeded.

"The lumen of the rectum was narrowed in such a way that buried étage sutures of iodoform catgut were introduced which did not perforate the entire thickness of the gut, the first row being inserted near the middle line, and forming a fold in the posterior wall, which protruded against the rectum. In this way the more lateral portions of the gut, as far as it could be done without causing too much tension, were brought into apposition. Then the surfaces of the levator ani and sphincter externus, which had been dissected back in order to lay bare the posterior wall of the rectum, and next their cut surfaces, were united by similar sutures. In order to secure a more lasting union, several buried sutures of silk-worm gut were also inserted into this muscular crest. Finally, a few sutures in the integument were introduced, and the cavity corresponding to the removed coccyx was left open and loosely filled with iodoform gauze.

"The healing process proceeded without any special disturbance. Everywhere the sutured parts united by first intention, and only from that portion of the wound which had been left open did a slight secretion take place. The patient's control over his bowels began to be manifest after the first few weeks, and never after the operation did the prolapse recur. Gradually the muscular closure became more and more energetic, and now, if a finger is inserted into the rectum, a very firm voluntary action of the muscles can be made out. The greater depth of the rima ani is observed, and the fact that it is drawn inward by the action of the levator. I have tried, in a case of extirpation of the rectum for melanotic tumor (I show the specimen), to secure muscular closure by uniting the levator ani. The result is not absolutely perfect, but the patient, a woman of about forty years, has more control over her bowels than these patients usually have. Only about three inches and a half of the gut, including the sphincter, were removed in this case. Of course, in more extensive operations, where the gut can not be sufficiently pulled downward, this plan can not be executed."

Dr. Sands said that he inferred from Dr. Lange's paper that the operation described was designed for cases in which a considerable amount of prolapse existed.

Dr. Lange replied that it was.

Dr. Sands said that several operations had been devised for the cure of ordinary forms of prolapse, among others that of stroking the mucous membrane longitudinally with the cautery. He had known this method to succeed, but he had also seen it fail. It was not safe to produce a very deep eschar, because the peritoneal cavity might be opened. When the prolapse was of moderate extent, it could usually be cured by the ordinary operation for hæmorrhoids—*i. e.*, by seizing the mass with forceps, drawing down, and ligating it; the contraction which followed would cure the prolapse. This simple procedure, the speaker added, had been very successful in his hands, and he preferred it to more serious operations. However, in aggravated cases, Dr. Lange's operation would, doubtless, be of benefit.

Dr. Lange remarked that the operation which he had described was not dangerous if antiseptic precautions were observed. The operator should be careful not to pass his sutures into the lumen of the gut. In operating for cancer of the rectum it was not necessary to introduce the finger into the bowel. The speaker had sometimes encircled the tumor with an elastic ligature, and then removed the growth. By stitching the gut to the skin before the ligature was removed, loss of blood was avoided.

Dr. Abbe asked how long the patient had been under observation since the operation, to which Dr. Lange replied four months.

In reply to questions from Dr. Briddon, Dr. Lange said that he removed the coccyx in order that the action of the levatores ani might be less impeded; and that both the anterior surfaces and the posterior borders of these muscles were brought together, because otherwise the ring would not be sufficiently narrow.

Dr. Abbe thought that, as none of the rectal tissue had been removed, but the lumen had been simply narrowed, it seemed as if there was nothing to prevent the gut from eventually distending until it reached its former size.

Dr. Lange called attention to the fact that there were several buried sutures of silk-worn gut which might cause suppuration and subsequent cicatricial contraction of the parts.

Dr. ABBE suggested that the tendency to redistension might be obviated by overlapping instead of simply approximating the divided muscles; it would not impair their contractile power. They would not be so likely to slide apart as they would to pull apart when merely brought in contact. He thought that four months was too short a time in which to judge of the success of a plastic operation.

Dr. LANGE admitted that the future must decide as to the usefulness of the new operation. He promised to observe his cases carefully and to report the results.

* * *

Book Notices.

The Principles and Practice of Medicine. By the late CHARLES HILTON FAGGE, M. D., F. R. C. P., Physician to, and Lecturer on Pathology at, Guy's Hospital, etc. Including a Section on Cutaneous Diseases, by P. H. PYE-SMITH, M. D., F. R. C. S., Lecturer on Medicine at Guy's Hospital; Chapters on Cardiac Diseases, by SAMUEL WILKES, M. D., F. R S., Physician to Guy's Hospital, etc.; and Complete Indexes, by ROBERT EDMUND CARRINGTON, M. D., Assistant Physician to Guy's Hospital, London. Volume II. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. 883.

THE second volume of the late Dr. Fagge's work opens with an excellent discussion of the functional affections of the heart. The chapters on dilatation and hypertrophy, on pericarditis and on valvular cardiac diseases, while they advance nothing new, are most carefully written, and in the author's agreeable and fascinating style. Then follow chapters on diseases of the alimentary canal, including intestinal entozoa. The author divides peritonitis into four classes: acute, chronic, tubercular, and cancerous. He emphasizes the extreme rarity of idiopathic acute general peritonitis.

Diseases of the liver get their full share of attention. The five pages devoted to functional disorders of the liver, including lithæmia, give one of the best discussions, in a condensed form, that we remember to have seen. The author decidedly favors the use of Pullna, Friedrichshall, and Carlsbad waters in lithæmia, especially the Friedrichshall.

The discussion of jaundice, its significance, causes, and treatment, is very complete and satisfactory. The author constantly shows that thorough familiarity with the literature of all the subjects of which he treats which we referred to in our notice of the first volume.

Dr. Fagge makes frequent reference to the views and labors of Dr. Murchison in connection with diseases of the liver, and pays marked tribute to those views. He even follows Murchison's classification to a great degree.

About one hundred and fifty pages are devoted to diseases of the urinary organs. Some very interesting discussions are given in these chapters. We would especially direct attention to those on albuminuria and its significance, and on functional disorders of the urinary organs, urinary calculi, and gravel. The author tries to make a clear division of Bright's disease, first dividing it into acute and chronic, and the chronic forms into parenchymatous nephritis, lardaceous disease, cirrhosis of the kidney, consecutive Bright's disease (such as follows stricture of the urethra, stone in the bladder, etc.), and cystic disease of the kidney.

The chapters on gout, rheumatism, and allied affections can not fail to be of interest; especially is this true of the one on gout. An English physician has more opportunities of observing gout in all its manifestations than the physician of almost any other country. It can not be long, however, before the American physician will have as good opportunities.

Dr. Fagge accepts the views of Garrod as to the distinction between a state of lithæmia and one of gout. He discusses the ætiology in a most interesting way, and especially as to food and drink. He inclines to the opinion that an excess of animal food is likely to cause gout, while the saccharine and starchy foods, although not so likely directly to produce gout, yet do produce the hepatic disturbances which increase the liability to gout in those who have the tendency.

He quotes with approval Sydenham's expression of comfort: "Gout kills more rich men than poor, more wise men than simple." Rickets, mollities ostium, and scurvy next receive attention, and there are interesting chapters on the various forms of anæmia.

Dr. Pye-Smith, to whom was left by Dr. Fagge the task of editing the work, has added the remaining chapters, 160 pages, devoted to skin diseases, which to the American reader seems almost out of place in a work on the practice of medicine, yet it adds to the general scope and value of the work.

A general and complete index to both volumes adds great value and usefulness.

One is gratified to find in the two volumes reference to no fewer than thirty American authors. Certainly these two volumes make a complete work on practice, whether as a book of reference or even as a text-book. It is in style worthy of a place second only to the classical work of Sir Thomas Watson.

La goutte; sa nature et son traitement. Par le Dr. W. EBSTEIN, Professeur de médecine et Directeur de la Clinique médicale à l'Université de Goettingue. Traduction du Dr. E. CHAMBARD, ancien Interne des Hôpitaux de Paris. Introduction du Professeur CHARCOT, membre de l'Institut. Ouvrage orné de 12 chromolithographies. Paris: J. Rothschild, 1887. Pp. xii–198.

LAST September we published a notice of an English translation of a smaller work on gout by Professor Ebstein, in which the author dealt with the regimen to be observed by the subjects of the disease.

We have read this more extensive work, in its excellent translation into French, with great interest. Although at first sight the pathological anatomy seems to occupy too much space, yet on further reading we find the portion devoted to the clinical aspect of gout equally thorough and satisfactory. The experiments carried out by the author with the care so characteristic of him go to show that necrotic changes in the tissues are brought about by the uric acid, with the subsequent production of neutral urates. The practical teaching is that the quantity as well as the quality of the food must be carefully regulated. Aside from the great value of this volume from a scientific standpoint, the beautiful chromo-lithographs in which important facts are portrayed, its substantial binding, and its excellent typographical work call for commendation.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

F. ALCAN, Paris.—A. Binet et C. Féré, "Le magnétisme animal." (6 *fr.*)

J. B. BAILLIÈRE ET FILS, Paris.—J. J. Cornilliac, "Recherches . . . , sur l'origine et la propagation de la fièvre jaune dans les Antilles et sur la côte occidentale d'Afrique." (8 *fr.*) —— P. M. Dechaux, "La saignée d'Hippocrate." (3 *fr.* 50.)

A. DELAHAYE & E. LECROSNIER, Paris.—J. Berryer et J. Pouchet, "Traité de médecine légale." (27 *fr.*) —— H. Thulié, "La femme, essai de sociologie physiologique." (7 *fr.* 50.) —— Peugniez, "De l'hystérie chez les enfants." (4 *fr.*) —— Sarda, "Des migraines." (3 *fr.* 50.) —— H. Saury, "Étude clinique sur la folie héréditaire." (4 *fr.*)

O. Doin, Paris.—Chavasse, "Nouveaux éléments de petite chirurgie." (9 *fr.*)

G. Masson, Paris.—M. Leven, "La névrose. Étude clinique et thérapeutique. Dyspepsie, anémie, rheumatisme et goutte, obésité, amaigrissement." (6 *fr.*) —— G. Hayem, "Leçons de thérapeutique. Les grandes médications." (8 *fr.*) —— J. J. Peyrot, "Manuel de pathologie externe," vol. iii. (10 *fr.*)

F. Savy, Paris.—C. Bouchard, "Leçons sur les auto-intoxications dans les maladies." (8 *fr.*)

BOOKS AND PAMPHLETS RECEIVED.

Officers and Members of the Medical Society of the State of New York. Also of the County Medical Societies of New York. Part II. "Transactions," 1886.

A Text-book on Surgery: General, Operative, and Mechanical. By John A. Wyeth, M. D., Professor of Surgery in the New York Polyclinic; Surgeon to Mount Sinai Hospital; Consulting Surgeon to the Yorkville Dispensary and Hospital for Women and Children, etc. New York: D. Appleton & Company, 1887. Pp. viii–777. [Sold by subscription. Price, $8.]

Follicular Amygdalitis. By A. Jacobi, M. D., President of the New York Academy of Medicine. [Reprinted from the "Medical Record."]

Diseases of Women. A Hand-book for Physicians and Students By Dr. F. Winckel, Professor of Gynæcology, and Director of the Royal University Clinic for Women in Munich. Authorized Translation by J. H. Williamson, M. D., Resident Physician, Alleghany General Hospital, Alleghany, Pennsylvania. Under the Supervision and with an Introduction by Theophilus Parvin, M. D., Professor of Obstetrics and Diseases of Women and Children in Jefferson Medical College, Philadelphia. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xxix–25 to 674. [Price, $3.]

The Year-book of Treatment for 1886. A Critical Review for Practitioners of Medicine and Surgery. Philadelphia: Lea Brothers & Co., 1887. Pp. viii–304. [Price, $1.25.]

A Raiva. Relatoris apresentado a sua Excellencia o Presidente de Conselho de Ministros e Ministro do Reino Conselheiro Jose-Luciano de Castro por Eduardo Abreu. Lisboa: Imprensa Nacional, 1886. Pp. 3 to 301.

Note preventive sull' Antifebbrina pel Prof. G. Cesari e Dott. C. Burani. Modena: G. T. Vincenzi e Nipoti, 1887.

Leçons sur les maladies du système nerveux, faites à la Salpêtrière par J. M. Charcot, Professeur à la Faculté de médecine de Paris, etc. Recueillies et publiées par MM. Babinski, Bernard, Féré, Guinon, Marie et Gilles de la Tourette. Tome troisième (deuxième fascicule). Paris: aux bureaux du "Progrès médical," 1887. Pp. 129 to 518.

Vesical Irritation in Women. By Virgil O. Hardon, M. D., Lecturer on Operative Gynæcology, Southern Medical College, Atlanta, Ga. [Reprinted from the "Atlanta Medical and Surgical Journal."]

An Outbreak of Cerebro-spinal Fever. By T. J. Maclagan, M. D., M. R. C. P., Physician in Ordinary to their Royal Highnesses Prince and Princess Christian, of Schleswig-Holstein. [Reprinted from the "Edinburgh Medical Journal."]

A Reference Handbook of the Medical Sciences, embracing the entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by Chromo-lithographs and Fine Wood Engravings. Edited by Albert H. Buck, M. D., New York city. Vol. IV. New York: William Wood & Company, 1887. Pp. 816.

Pocket Medical Formulary, arranged Therapeutically. By Alexander Hazard, M. D., and Bernard M. Goldberg, M. D. Revised and enlarged by Abraham S. Gerhard, A. M., M. D., Professor of General Pathology, Medical Jurisprudence, and Clinical Medicine, at the Medico-chirurgical College, Philadelphia, Pa. With an Appendix containing Formulæ and Doses of Hypodermic Medication; a Table of Eruptive Fevers; and Poisons, their Symptoms, Antidotes, and Treatment. Pp. xi–333.

The Treatment of Vaginismus. By Thomas More Madden, M. D., F. R. C. S., etc. [Reprinted from the "Dublin Journal of Medical Sciences."]

Reports on the Progress of Medicine.

DISEASES OF CHILDREN.

By L. Emmett Holt, M. D.

The Bronchial Catarrh of Children.—Carmichael's views ("Edinburgh Med. Jour.," Oct. and Nov., 1886) on the pathology and symptomatology do not differ essentially from those generally held on this subject. His treatment deserves to be noted, as he speaks from a large experience. Moisture in the air of the room is an important thing, especially in cases of a severe type. This is most easily obtained by hanging wet towels about the bed upon a cord. It has none of the disagreeable features of the steaming by a kettle, and is quite as efficient. Alcoholic stimulants are not to be too readily or too frequently used. They are necessary, generally, only in prolonged and unusually severe cases, the effects being carefully watched. Moderate counter-irritation to the chest should be kept up by stimulating liniments, or by the occasional use of mustard cataplasms. Poultices in general are to be rejected on account of the inherent difficulties connected with their proper preparation and application. Much to be preferred for common use are the oil-silk and cotton-wool jackets. When the cotton is wrung out of warm water before application, the best sort of poultice is obtained. Emetics may be used to empty the tubes under the following circumstances only: A constant, dry cough, deficient secretion, high fever, strong pulse, and deficient action of the skin. The routine use of expectorant mixtures—such as those of squills, ipecac, etc.—is strongly deprecated.

In the early stages, when the temperature is elevated, antimony, apomorphine, or ipecac may be used. Afterward saline expectorants are the most valuable—the alkaline carbonates, citrate of potassium, and iodide of sodium. In the more chronic cases the author gives a high place to turpentine compounds, particularly terebene and eucalyptus. The former may be used with great advantage in acute cases, where the dryness of the mucous membrane and spasm are present. The latter is best used by inhalation.

Amygdalitis and its Relation to Scarlatina and Diphtheria.—R. H. Fox, in the "Lancet" for July 31st, advances a new theory of these diseases. His remarks apply to follicular or "septic" amygdalitis, the suppurative form, or true quinsy, being excluded. It is well known that outbreaks of amygdalitis sometimes occur in connection with insanitary conditions of drainage and water-supply. The disease then seems to be infectious. Many cases are hard to differentiate from scarlatina and diphtheria. He advances the proposition that scarlatina and diphtheria may be regarded as forms of amygdalitis which have acquired infective characters. They differ from the simple form by having the power of infecting the system generally and producing the phenomenon of a specific disease. The poison probably reaches the system by means of the lymphatic system from the tonsils. In ordinary amygdalitis the poison goes no farther than the gland.

Duration of Infection in Certain Infectious Diseases.—Raven ("Brit. Med. Jour.," July 24, 1886) states in general that a long incubation is followed by a sharp, well-defined illness and by a short period of infection, and, conversely, diseases characterized by a short incubation have a long period of infection. Measles has a long incubation and short period of infection, usually only three weeks, though this may last during the persistence of the catarrh—a fact often overlooked. Scarlet fever has the shortest incubation. A case is mentioned and well authenticated where the disease began almost immediately upon exposure. Infection may be prolonged almost indefinitely. It may arise from late desquamation, from the discharge from the ears or nostrils, or even from the urine in cases of nephritis. Diphtheria has usually a mild infective power, and of short duration; in exceptional instances this may be prolonged. A case is related where, after "many weeks," the disease was conveyed, only diphtheritic paralysis remaining.

Infant Feeding; the Early Use of Farinaceous Foods with Milk.—Thurstan ("Lancet," Sept. 4th) believes the objections to the use of these substances in young infants are more theoretical than real. They should be used with cows' milk, and are superior to all other substances—lime-water, barley-gruel, etc.—for preventing the coagulation of the milk in firm curds. This is the chief end they subserve, and it does not matter much which one is used. A case of a premature child is cited, which began to gain immediately upon this plan being followed out, where the usual regulation dietetic rules had signally failed, and it was wasting steadily.

The Frequency of Tuberculosis and its Principal Localization in Infancy.—W. Froebelius ("Jahrb. f. Kinderheilk.," 1886, Bd. xxiv, H. 1 and 2) states that among 18,569 deaths under four months occurring in the Foundling Asylum of St. Petersburg between 1874 and 1883, 416, or about four tenths per cent., were from tuberculosis. The writer concludes that it is not so large a factor in infant mortality as is generally held. Sixty-five per cent. of these cases were in well-nourished infants. The lungs were found affected in every case, the bronchial glands in 99·2 per cent., the liver in 88 per cent., spleen in 86·5 per cent., intestine in 26·9 per cent., meninges in 24·5 per cent., kidney in 22·6 per cent., mesenteric glands in 16·1 per cent., heart and pericardium in 3·4 per cent., pleura in 4·5 per cent., upper respiratory passages in 2·4 per cent. This is held to show that tuberculosis by inhalation is more frequent than tuberculosis by alimentation. Among the pulmonary lesions, caseous pneumonia was found in 34·8 per cent., peribronchitis and pneumonia in 46 per cent., cavities in 7 per cent., and miliary tuberculosis without other pulmonary changes in 12 per cent.

Constipation in Childhood, and its Sequel, Atony and Distension of the Colon.—W. B. Cheadle, M. D. ("Lancet," Dec. 4 and 11, 1886), says that the factors concerned in its production are: 1. Deficient fluid in the intestine from deficient supply in the food, or insufficient secretion. 2. Deficient peristalsis, especially in the large intestine, from defects in diet, over-stimulation by drugs, or atony. 3. Inhibitory influences of the brain and cord affecting both 1 and 2. 4. Insufficient exercise. 5. Dilatation of the intestine.

In children the important influences are food leaving but little residue—*e. g.*, milk, the fæcal matter being too small to excite peristalsis. The fæces may be too dry when not enough water is allowed. Uniformity in food is likewise unfavorable. Deficient biliary secretion and intestinal secretion cause unstimulating or dry fæces. Over-stimulation may come from coarse foods by the too frequent use of drugs or enemata. The dread of an evacuation from the pain produced by it is frequently an important factor. Where constipation has long existed, the indications are to clear out the intestine by a brisk purge, like calomel and jalap, and then secure a daily movement by some unstimulant aperient. Those recommended are carbonate of magnesium, a mixture of strychnine, iron, and sulphate of magnesium, or strychnine, belladonna, and sulphates of magnesium and sodium, in all cases the dose being gradually reduced. In the second lecture are reported several exceedingly interesting cases of long-standing constipation, in which atony and great dilatation of the colon resulted. In one case this was so extreme that the abdomen, in a delicate boy of five, measured twenty-two inches and three fourths in circumference. Tympanitic resonance extended to the nipple line. The apex of the heart was crowded up to the nipple. There were dyspnœa, impeded circulation, and great prostration; puncture of the colon with a fine trocar was then made and an immense quantity of gas drawn off. Under the use of abdominal bandages, strychnine, belladonna, and a mixture of the sulphates of sodium and magnesium, recovery finally took place. The condition had been brought about by the use of larger and larger enemata, which had been continued for months, together with the administration of stronger purgatives by the mouth. In conclusion, the writer advises the salines as the most valuable in treating constipation in children. Carbonate of magnesium, gr. x–xx in milk, for infants; the mixture of the sulphates of magnesium and sodium to older children, with massage and iron, strychnine, and belladonna, whenever atony occurs, as it does in almost all cases of long standing.

Intussusception treated with Inflation and Massage.—Cheadle ("Lancet," Oct., 1886, p. 766) reports three successful cases. A boy of five months began on July 4th to have constipation and vomiting; the bowels were moved on the 8th by magnesia, and again on the 10th by some other cathartic. On the 11th screaming pains began, with persistent vomiting and great restlessness. On the next day he passed blood and was then admitted to the hospital. The characteristic sausage-shaped tumor was present in the umbilical region and extended toward the left side. The rectum was empty. A small quantity of water only could be injected, so that air was substituted, retained by pressing the anal folds tightly together over the tube. The abdomen was kneaded gently at the same time. In a few minutes the tumor was gone. It recurred in the right hypochondriac region a few hours later; the injection of air and massage were repeated under chloroform and the tumor rapidly disappeared. Four hours later a natural movement from the bowels occurred, and the patient made a complete recovery. Two other similar cases are reported with equally good results. Elliott ("Lancet," Jan. 8, 1887) adds another case which was finally cured, although two relapses occurred on the fifth and twenty-fifth days respectively. The same method was employed as by Cheadle.

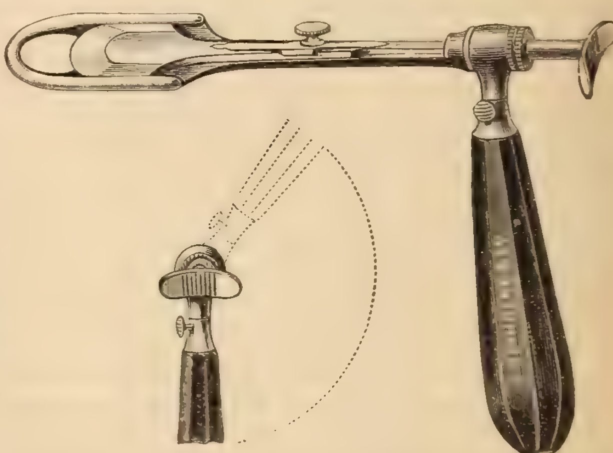
Duration of the Infectious Period of Scarlatina.—Ashby ("Brit. Med. Journal," Oct. 30, 1886) states that the rule adopted at the Manchester Fever Hospital is discharge at the end of six weeks in uncomplicated cases. Yet statistics, collected as carefully as was possible from the nature of the cases, showed that from 2 to 4 per cent. of the patients have given the disease even after this time. He summarized his experience as follows: 1. If desquamation is complete, patients may be discharged at the end of the sixth week, though, to secure absolute immunity, it is wiser to delay this until the eighth week. 2. In complicated cases, such as those with otitis, empyema, nephritis, and glandular abscesses, the patients should be considered as likely to convey the disease until these are cured. 3. While it is important that desquamation should be as complete as possible, should this continue beyond the eighth week upon the palms and soles, further detention in the hospital is unnecessary.

New Inventions, etc.

A NEW REVERSIBLE AMYGDALOTOME.

By F. A. Mandeville, M. D.,
ROCHESTER, N. Y.

Several years ago Mackenzie devised a modification of Physick's amygdalotome, which allowed the handle to be applied to either side of the shank, thus enabling the operator to use the instrument with the right hand for the removal of either tonsil. In the endeavor to still further improve upon this instrument, I have devised an amygdalotome which can be reversed more easily and much quicker than Mackenzie's, without the necessity of unscrewing the handle. As time is an important item in some cases, especially with children, when it is necessary to amputate both tonsils, it is desirable to reverse the instrument as quickly as possible, and complete the operation while the patient is under control.



As will be seen by the accompanying cuts, the handle is attached to the instrument so that it will revolve around it, a spring bolt stopping it at the desired point. This bolt is controlled by the thumb of the operator drawing a slide, which is placed in the shank of the handle. The smaller cut shows the operation of the handle, as well as its relative position, when adjusted for either the right or left side. Another point: when the instrument is reversed from the right tonsil, the handle is dropped a little below the level of the mouth, so that the hand of the operator will not interfere either with the illumination or with a view of the throat.

Miscellany.

The Electrolytic Destruction of Hairs.—The Paris correspondent of the "Journal of Cutaneous and Venereal Diseases" writes: "During the past few months I have been experimenting in Paris with the methods which the American dermatologists employ to destroy hairs growing upon regions where they should not exist. In June last I communicated my first results to the *Société méd. des hôp. de Paris.* I operate with very fine platinum needles, soldered to little metal cylinders, which make it easy, held between the thumb and index, to move in any direction. So as to know the depth to which the needle has penetrated, I place, at five millimetres from the point, a mark with sealing-wax. I have also had some platinum needles with a metallic index at this point. The patient constantly holds in his hand a cylinder, covered with chamois skin, attached to the positive pole. The needle attached to the opposite pole is introduced along the course of the hair down to its bulb, and the follicle is, so to speak, catheterized. An assistant now slowly turns on a current of from eight to ten milliampères, which I usually find sufficient. In operating in this way, the patient does not suffer from the painful shocks of the current, and the pain seems to be less severe. I pass over the thousand details of the operation, on which it is not necessary to dwell, since it is especially in America that this method has been studied. The results which I have obtained have been quite satisfactory. It is incontestable that in this way the hairs can be destroyed, and, indeed, without leaving cicatrices to any appreciable extent, especially if care is taken not to operate at any sitting upon hairs which are close together. The inconveniences of the method consist especially in the multiplicity of operations necessary, for we can scarcely destroy more than from forty to fifty hairs at a sitting; in the intense pain which certain patients suffer, but which can, up to a certain point, be modified by interstitial injections of cocaine; and, finally, in the slight deformity which the inflammatory action causes, an inevitable result of the destruction of the bulb."

The New York Academy of Medicine.—At the meeting of the Section in Neurology, on Friday evening, the 11th inst., Dr. Edward D. Fisher will read a paper on "Headache; its Varieties and Treatment."

At the meeting of the Section in Surgery, on Monday evening, the 14th inst., Dr. J. A. Wyeth will read on "Exsection of a Portion of the Small Intestine, with reunion of the Divided Ends."

At the meeting of the Section in Theory and Practice of Medicine, on Tuesday evening, the 15th inst., Dr. C. E. Billington will read on "Local Treatment in Diphtheria."

The Section in Orthopædic Surgery will meet on Friday evening, the 18th inst. The order of business is to be announced.

The Health of Boston.—During the week ending Saturday, February 26th, there were reported to the Board of Health 23 cases of diphtheria and 6 deaths; 25 cases of scarlet fever and no deaths; 62 cases of measles and 1 death. There were also 27 deaths from consumption, 14 from pneumonia, 10 from heart disease, 12 from bronchitis, and 5 from marasmus. The total number of deaths was 157, against 136 in the corresponding week last year.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality" for the month of January, the whole number of deaths was 522, including 1 from cholera infantum, 49 from croup and diphtheria, 1 from dysentery, 1 from erysipelas, 13 from typhoid fever, 5 from pyæmia and septicæmia, 1 from syphilis, and 1 from scarlet fever.

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending February 24th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending February 5, 1887, corresponded to an annual death rate of 19·6 in a thousand of aggregate population, which is estimated at 9,245,099. The lowest death rate was recorded in Nottingham, viz., 13·5, and the highest in Plymouth, viz., 28·4 in a thousand.

London.—One thousand four hundred and eighty-five deaths were registered during the week ending February 5th, including 48 from measles, 11 from scarlet fever, 16 from diphtheria, 40 from whooping-cough, 1 from typhus fever, 14 from enteric fever, and 12 from diarrhœa and dysentery. There were 364 deaths from diseases of the respiratory organs. Different forms of violence caused 54 deaths, and 5 suicides were registered. In greater London, 1,817 deaths were registered, corresponding to an annual rate of 17·5 in a thousand of population.

Ireland.—The average annual death rate represented by the deaths registered during the week ending February 5th, in the sixteen principal town districts of Ireland, was 26·4 in a thousand of population. The lowest rate was recorded in Lisburne, viz., 9·7 in a thousand, and the highest in Cork, viz., 34·4 in a thousand.

Dublin.—Two hundred and one deaths were registered during the week ending February 5th, including 15 from zymotic diseases. In thirty-two instances the cause of death was uncertified, there having been no medical attendant during the last illness. The deaths from all causes corresponded to an annual rate of 28·8 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending January 29th was 24·7 in a thousand of estimated population. The lowest mortality was recorded in Perth, viz., 14·6, and the highest in Paisley, viz., 30·8 in a thousand. The death rate during the week ending February 5th was 19·8 in a thousand. The lowest mortality was recorded in Leith, viz., 12·2 in a thousand, and the highest in Glasgow, viz., 23·7 in a thousand.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,763,843, during the week ending January 22d, corresponded to an annual death rate of 23·4 in a thousand. The lowest rate was recorded in Mannheim, viz., 10·6 in a thousand, and the highest in Altona, viz., 42·4 in a thousand.

Netherlands.—The deaths registered in twelve cities of the Netherlands, having an aggregate population of 1,080,805, during the month of December, corresponded to an annual death rate of 24·7 in a thousand. The lowest death rate was recorded in Leeuwarden, viz., 15·2 in a thousand, and the highest in Dordrecht, viz., 29·5 in a thousand.

Calcutta.—Two hundred and forty-six deaths were registered during the week ending Janury 1st, including 31 from cholera, 79 from fevers, 34 from bowel complaints, and 27 from tetanus.

Guayaquil.—Seventy-two deaths were registered during the week ending January 28th, including 22 from yellow fever, 9 from small-pox, and 13 from enteric fever.

Para.—Forty-two deaths were registered during the week ending January 31st, including 3 from yellow fever.

Havana.—The United States Sanitary Inspector reports 3 deaths from yellow fever during the week ending February 17th.

Kingston, Jamaica.—One hundred and forty-four deaths were registered during the month of January, including 34 from small-pox.

Paris.—One thousand one hundred and sixty-eight deaths were registered during the week ending February 5th, including 2 from small-pox, 42 from measles, 13 from whooping-cough, 16 from enteric fever, 4 from scarlet fever, and 34 from diphtheria.

Rheims.—Fifty-six deaths were registered during the week ending February 5th, including 1 from small-pox, 2 from whooping-cough, and 1 from diphtheria.

Genoa.—Fourteen cases of small-pox were registered during the week ending February 5th, and 1 death from that disease.

Rome.—One hundred and twenty-six deaths were registered during the week ending December 25th, including 6 from small-pox, 3 from enteric fever, and 6 from diphtheria.

Leghorn.—Two cases of small-pox were registered during the week ending February 6th, but no deaths.

Trieste.—One hundred and seventeen deaths were registered during the week ending January 29th, including 3 from diphtheria. One case of small-pox was reported.

Warsaw.—Two hundred and thirty-two deaths were registered during the week ending January 29th, including 6 from small-pox.

Bordeaux.—One hundred and seventy-one deaths were registered during the week ending February 5th, including 2 from enteric fever.

Edinburgh.—Ninety-three deaths were registered during the week ending January 29th, including 2 from diphtheria, 1 from measles, and 1 from whooping-cough.

Amsterdam.—One hundred and sixty-four deaths were registered during the week ending February 5th, including 3 from typhus fever, 3 from scarlet fever, and 3 from diphtheria.

Leipsic.—Sixty-seven deaths were registered during the week ending February 5th, including 3 from scarlet fever and 1 from diphtheria.

Queenstown.—Five deaths were registered during the week ending February 12th, including 1 from typhus fever and 1 from enteric fever.

Bristol.—Eighty-four deaths were registered during the week ending February 5th, including 4 from scarlet fever and 1 from diphtheria.

Belfast.—Ninety-nine deaths were registered during the week ending February 5th, including 1 from typhus fever, 2 from enteric fever, and 1 from scarlet fever.

Glasgow.—Two hundred and thirty-nine deaths were registered during the week ending February 5th, including 5 from enteric fever, 3 from scarlet fever, 4 from diphtheria, and 17 from whooping-cough.

Cadiz.—Sixty-seven deaths were registered during the week ending January 29th. Diseases of the throat and measles prevailed.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Estimated population.	Week ending—	Total deaths from all causes.	Annual rate of mortality in 1,000.
Calcutta..........	433,219	January 1.	246	29·6
Guayaquil.........	35,000	January 28.	72	107·2
Para..............	30,000	January 31.	42	73·0
Paris.............	2,260,045	February 5.	1,160	26·7
Rheims............	98,083	February 5.	56	29·7
Rome..............	355,026	December 25.	126	18·5
Leghorn...........	101,172	February 6.	57	29·3
Trieste...........	150,157	January 29.	117	40·6
Warsaw............	431,572	January 29.	232	28·0
Bordeaux..........	240,582	February 5.	171	37·0
Vera Cruz.........	23,800	February 10.	19	41·6
Edinburgh.........	258,629	January 29.	93	18·7
Amsterdam.........	378,969	February 5.	164	22·5
Rotterdam.........	190,521	February 5.	97	26·5
Leipsic...........	170,000	February 5.	67	20·5
Bristol...........	223,695	February 5.	84	19·5
Belfast...........	224,422	February 5.	99	23·0
Glasgow...........	545,678	February 5.	239	22·8
Cadiz.............	65,028	January 29.	67	53·7
Leith.............	72,297	January 29.	33	23·7
Frankfort.........	155,000	January 29.	46	15·4
Mannheim..........	65,000	January 22.	18	14·4
Bremen............	119,000	January 29.	58	25·4
Antigua...........	15,847	February 6.	14	46·0
Gibraltar.........	23,731	January 30.	10	21·9
Pernambuco........	111,000	January 19.	62	29·1
Toronto...........	120,000	February 12.	27	11·7
Matamoras.........	12,000	February 5.	10	43·4
Stuttgart.........	125,510	February 5.	44	18·2
Havre.............	112,074	February 5.	52	24·1
St. Thomas........	15,000	January 28.	6	20·8

The Sixth German Medical Congress (*Congress für innere Medicin*) will be held in Wiesbaden, on the 13th, 14th, 15th, and 16th of April, under the presidency of Dr. Leyden, of Berlin. Dr. Dettweiler, of Falkenstein, and Dr. Penzoldt, of Erlangen, will report on "The Treatment of Phthisis"; Dr. Nothnagel, of Vienna, and Dr. Naunyn, of Königsberg, on "The Localization of Brain Diseases"; and Dr. A. Vogel, of Munich, and Dr. Hagenbach, of Basel, on "The Pathology and Treatment of Whooping-cough." In addition, the following papers are announced: "Pernicious Anæmia," by Dr. Lichtheim, of Bern; "The Pathological Anatomy of Tabes Dorsalis," by Dr. Rindfleisch, of Würzburg; "Experimental Epilepsy," by Dr. Unverricht, of Jena; and "The Physiological Significance of Wandering Leucocytes proceeding from the Tonsils and the Sebaceous Glands of the Tongue," "Chyluria," and "A Respiratory Chair for Emphysematous and Asthmatic Subjects," by Dr. Rossbach, of Jena. The secretary of the Congress is Dr. Emil Pfeiffer, of Wiesbaden.

In the Pharmacy.—Mr. Oppendorf: "Rachel, haf ve got mooch of dot gholera migscher auf der sheluf?" Mrs. O.: "Yaw, Isaac, dere is two grosses of bottles of der migscher." Mr. O.: "Vell, send Schakey out for a parrel of green apples, und ve vill gif dem avay to der small poys der neighporhoot in. Hast du gesehen? Ve must dot peeziness poom alretty."—*British and Colonial Druggist.*

THERAPEUTICAL NOTES.

Phosphates in the Treatment of Typhoid Fever.—Dr. William W. Reese, of Brooklyn, writes to us of his satisfactory experience for some months past in the treatment of typhoid fever with the phosphates, particularly those of calcium, iron, and sodium. After slight mercurial and saline purging, he uses these salts together with the cinchona alkaloids and some aromatics. He especially commends a preparation of these phosphates made by Dr. T. B. Wheeler, of Montreal, known as "compound elixir of phosphates and calisaya." He has seen no untoward effects from its use, and his impression has been that the patients to whom it was given were less liable than others to delirium, serious diarrhœa, hæmorrhage, and certain other unfavorable manifestations of the disease. He usually repeats the purgation every week, thinking it important to prevent the accumulation of foul secretions in the intestine.

Cannabis Indica in the Treatment of Dysentery.—Staff Surgeon S. J. Rennie, of Cawnpore ("Indian Med. Gaz.," Dec., 1886), publishes brief histories of four cases of dysentery, acute, subacute, and chronic, treated successfully with tincture of cannabis. He prescribes it according to the following formula:

Tincture of cannabis.................... 15 minims;
Bismuth subcarbonate.................... 5 grains;
Mucilage of gum arabic.................. 30 minims.

Mix and add:

Tincture of ginger,
Compound tincture of cardamom, } each.... 20 minims;
Spirit of chloroform,
Cinnamon water.......................... to 1 oz.

This quantity to be taken after each meal. The administration requires to be kept up for several days after all symptoms have ceased.

Guaiacum as an Emmenagogue.—Sir James Sawyer ("Birmingham Med. Rev.," Jan., 1887; "Med. Chron.," Feb., 1887) states that his observation has led him to regard guaiacum as an efficient remedy in a large proportion of cases of amenorrhœa, especially where there is no obvious spanæmia to account for the defect of menstruation. He gives ten grains of the powder, in a wineglassful of milk, every morning, before breakfast. It occasionally causes a little abdominal pain and purging, but may be given for some weeks with safety.

Apomorphine as an Ocular Anæsthetic.—Dr. Stocquart ("Jour. de sci. méd. de Lille," Jan. 14, 1887; "Lyon méd.," Feb. 13, 1887) has repeated Bergmeister and Ludwig's experiments with apomorphine hydrochloride, and has found that from six to twelve drops of a one-per-cent. solution produce an anæsthesia of the conjunctiva closely resembling that effected with cocaine and lasting from five to ten minutes. It is accompanied with dilatation of the pupil, slight nausea, and then dryness of the conjunctiva.

Liquid Vaseline for Subcutaneous Injections.—At a recent meeting of the Paris *Société de thérapeutique* ("Prog. méd.," Feb. 12, 1887), M. Dujardin-Beaumetz referred to the irritating character of many substances which it would otherwise be advantageous to use subcutaneously, and stated that liquid vaseline (*huile de Bakouck*) had been found by M. Meunier to be an excellent solvent for many such substances, while it overcame their acridity—even that of carbon sulphide—and was itself innocuous.

Lady Students in Paris.—"Lyon médical" states that there are 108 ladies studying medicine in Paris this winter, 83 of whom are Russians, 7 French, 3 American, 2 Austrian, 1 Roumanian, and 1 Turkish.

THE NEW YORK MEDICAL JOURNAL, MARCH 12, 1887.

Original Communications.

A HOSPITAL EXPERIENCE;

OR, FOUR MONTHS' OPERATIVE WORK AT THE NEW YORK HOSPITAL.*

By ROBERT F. WEIR, M. D.,

ATTENDING SURGEON TO THE NEW YORK HOSPITAL, PROFESSOR OF CLINICAL SURGERY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

It is with some hesitation that a surgical paper in this form is now brought before the members of this society, but it is believed that, beside the details of interesting and important operations which are here presented, the opportunity that is thus afforded of making short comments on both major and minor points in surgical practice may be productive of value, if not in the paper itself, at least in the precedent that may be established. Personally I feel that much which is hardly worthy of a separate paper must be continually developing in the practice of my hospital *confrères* that I should be glad to hear about. The city is so large and time so valuable that we have but little chance of visiting one another's wards, and, unless some specified mooted topics are deliberately announced for discussion and comment, I do not know how better such can be considered, or the experience of our hospitals grouped, than in the way I have this evening ventured upon. It is easy, also, for me to see that this can be done in a much more satisfactory manner than is now attempted, and time will quickly prove this should my example be justified by an imitation.

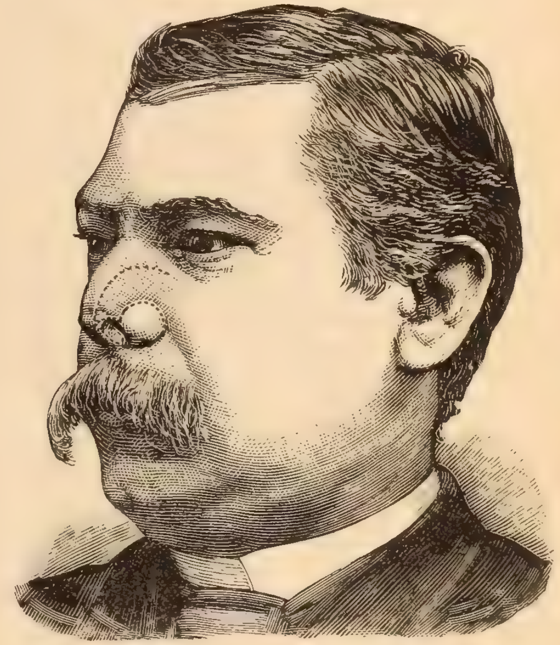
It is known, I think, to all the members of this society that the majority of our hospitals are conducted upon what myself and others consider the erroneous plan of allotting to each of the attending surgeons terms of service ranging from two to six months, depending upon the number of surgeons connected with the hospital. Lately an improvement has been made in several of the hospitals, of which the New York Hospital is one, by which the term has been increased to an average of six to eight months. It is anticipated that in a short time a further beneficial change to a continued service (such as is resorted to as a rule in England and on the Continent) will be fully established. The foregoing remarks are intended to be explanatory of the statement that my last assignment to service has extended from August 1, 1886, to February 1, 1887, but, by reason of my absence from the city, it has only embraced a period of four months, beginning October 7, 1886. From that time until the present, having under my charge wards comprising 55 beds, I have had out of 339 cases of all kinds 105 operations to perform, a large number of which were of importance. Of these there were 19 on the head and neck, 53 on the trunk (of which 23 were on the genito-urinary apparatus), and 33 on the extremities. This is a division which, while not strictly scientific, allows of ready grouping of cases, and it is on this account adopted.

THE OPERATIONS ON THE HEAD AND NECK were principally as follows: Two were done for the relief of deformity of the nose, which are well shown in the accompanying casts. The points in each case are worthy of brief mention:

Deformity of the Nose from a Fall.—C. F. P., aged nineteen, was admitted January 4, 1887, with the history that fifteen years before he fell into an area, a distance of seven feet, striking on his nose, and flattening it by apparently crushing in the cartilaginous septum. The nose is now increased in breadth at the lower part and is sunken in, and the bony plate of the nasal process of the maxillary bone is unduly prominent, as is seen in the cast. The septum is much thickened for half an inch below the skin, but is not deviated. On January 7th Dr. Weir, with a fine wood-engraver's chisel, cut through the nasal processes from without and forced them inward and toward each other, holding them *in situ* by a needle passed transversely across the nose, the ends being prevented from pressing against the skin by pads of iodoform gauze. At the tip of the nose from within the nares the thick skin was separated from the cartilage for a considerable distance by subcutaneous dissection, and was pulled forward and held in place by a silver wire clamped at each end with a shot over little cork plates, so that the broad freshened under surfaces of the skin should be brought together.

The upper pin was removed on the fourth day, as some sloughing was apprehended on account of pressure; this was immediately relieved. The lower wire was kept *in situ* for twenty-four hours longer, no ulceration having occurred under the cork pads. Lateral compresses were retained for a few days longer. The result was excellent in this case, as will be seen by the patient himself, who is submitted for inspection.

The second patient had the end of his *nose bitten off* in a fight; the operation consisted in replacing the parts lost (see wood-cut). It is best shown in the accompanying cast, on which the outline of the flaps made for closing the defect is also represented. The result was fully satisfactory, though it was subsequently necessary to utilize a portion of the columna in order to fill up a slight gap in the edge of the nostril.



Besides the operations on the external nares, there were two others of more importance. One was for a *peculiar bony tumor of the nose*, met with in a young woman of twenty-two, who had had since her tenth year difficulty in breathing through the right nostril, which had lately increased, and which has been associated with hemicrania on the corresponding side. At the orifice of the nostril is seen a fleshy growth, beneath which is a firm, bony mass. Nothing could be passed into the nose by the side of it. Although no swelling of the cheek existed, it was determined at the operation, after the exposure of the bone by the usual incision carried from the middle of the lip around the nose, to open the antrum in order to see if the growth invaded that cavity. This was done with a small gouge, and it was found to be free from disease. The bony growth, which apparently consisted of the greatly hypertrophied inferior turbinated bone, was removed with a forceps, and the operation was thought to be completed; but it was noticed that the blood which collected in the nose did not run down the throat, and this was found to be due to the fact that the posterior portion of the bone shut off the posterior nares, only permitting a fine probe to be passed into the naso-pharynx. This part of the bone was thereupon removed, when the passage was found to be quite clear. The patient has since been free from all unpleasant symptoms, except the annoyance due to collections of mucopurulent crusts.

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* Read before the New York Surgical Society, February 9, 1887.

The remaining nasal case was one of *fibro-sarcoma of the nose, removed by Chassaignac's operation; recurrence in the brain.* The patient, a man aged forty-two, had been troubled for over a year with a stuffy feeling in the right nostril, associated with hæmorrhage. Two months before his entrance into the hospital a tumor appeared in the right naris, and an unsuccessful attempt was made to remove it by means of the snare. On his entering the hospital, his nose was examined by means of the rhinoscope, and the naso-pharynx was found to be free from disease, the posterior limit of the growth reaching not quite to the posterior nares. An attempt was made to remove it by cutting across the nose at its attachment, on a level with the eyes, and sawing through the nasal bones, carrying the cut downward on the right side of the nose along the labio-nasal junction to the left ala. This allowed the whole nose to be tilted to the left side, and gave free access to the entire tumor. After removal of a quantity of a soft growth by means of the curette and wire loop, it was found that the neoplasm extended so far into the ethmoidal and sphenoidal cells that it would be unsafe to follow it farther. The cavity was packed with iodoform gauze, and the patient made a speedy recovery, leaving the hospital two weeks later much relieved. Six weeks after, he began to have slight divergent strabismus and amblyopia in the right eye; soon there was total loss of vision in this eye, and the other eye also began to be affected, showing plainly that the neoplasm had extended to the brain, or at least beyond the cranium. By the aid of the rhinoscope its recurrence in the nose could also be perceived.

Irrespective of the cerebral extension, it would have been better in this case to do the usual partial resection of the jaw, according to Maisonneuve's suggestion, as this would not only have allowed a more thorough extirpation of the growth, but would have enabled one to detect and to treat early any recurrence.

In addition to the foregoing operations on the face, there were one for necrosis of the upper and one of the lower jaw, one for hare-lip, closed by Mirault's method, and one for the removal of an extensive mushroom epitheliomatous growth, four inches in diameter, on the side of the face in an old man of seventy-three, the operation being performed for the arrest of hæmorrhage, which was becoming profuse and frequent. The growth contained scattered epithelial cells. [This specimen and a photograph of the patient were shown.]

Another operation was performed for the removal of epithelioma involving the entire lower lip, a V-shaped incision being made, and a new lip formed, after Burow's method. The interesting point in this case lay in the fact that, although the clinical appearances of epithelioma were typical, neither the mass removed nor an enlarged gland (extirpated from beneath the right side of the jaw) showed any microscopical evidences of epithelioma until more than thirty slides had been examined by the pathologist. This may serve as a lesson not to trust too much to the microscope in cases of small sections of suspicious growths, especially those of the mouth, tongue, and similar localities. There was one operation for the relief of neuralgia of the inferior dental nerve, the details of which are as follows:

Intra-buccal division of the inferior maxillary nerve was done for severe neuralgia, affecting the right side of the face, but principally the lower teeth, and associated with flashes of pain along the course of the auriculo-temporal nerve. This had existed at intervals for over three years, but during the past ten months the pain had been more or less continuous. All the usual internal and local treatment—such as with quinine, arsenic, aconitine, morphine, electricity, etc.—had been tried, but without giving relief. On October 11, 1886, the patient was etherized, and, his mouth being held open by a gag, an incision was made, extending from the upper to the lower jaw, along the inner edge of the latter. The spine of Spix was exposed, and the nerve was seized with a strong, slender forceps at the point at which it enters the dental canal, and divided with scissors above and below the forceps. The small mass removed, however, did not plainly show nerve-tissue, whereupon a blunt hook with a short curve was introduced two or three times, until finally it was passed well back and drawn forward, when it seized a cord which was supposed to be the nerve. This was divided with scissors, when quite a severe hæmorrhage took place, which could only be controlled by rapidly packing the wound with iodoform gauze. The hæmorrhage recurred the same evening, several ounces more being lost, but it was checked by additional compression, the jaws being firmly bound together so as to force the compress against the wound. The gauze was removed from the wound piecemeal, the last being taken away by the tenth day. The patient has been free from pain from the time of the operation up to February 1st, when she was last heard from, and has gained greatly in flesh.

Whether the hæmorrhage came from the inferior dental artery or, as I feared at first, from the internal maxillary, I can not positively determine, but, since I have heard of a similar mishap in an operation conducted in a much simpler manner than mine, I am led to think that it arose from the former vessel. I have performed this operation now three times. In the first case it was readily completed by the removal of a small portion of the nerve, grasped by the slender forceps which were used, and the success was permanent. In the second a good deal of difficulty was encountered, and, although the nerve was finally divided, the pain recurred after an interval of three months.

Of the surgery of the brain, two interesting examples can be given, the first being

A case of *cerebral abscess* following an old injury. The patient in 1880 received an injury of the left frontal region, just above the eyebrow, by his gun exploding and lodging its breech-pin in his brain. When it was extracted at the hospital, the anterior clinoid process of that side could be felt by the finger. A number of bone-fragments were removed, together with some brain-substance. No cerebral symptoms followed until four months later, when occasional epileptic fits appeared; but none have occurred during the last two years. Last summer he had a painful pulsating swelling over the site of the old injury, which passed away under treatment with large doses of iodide of potassium and local blistering. About ten days ago he began to have much pain and headache on the left side of the head, over the brow. When sent to the hospital by Dr. Seguin, on November 7, 1886, there was some œdema of the left upper lid and great sensitiveness over the region of the old cicatrix, and there was a feeling of deep fluctuation. There was no paralysis of motion or sensation. Under ether a V-shaped incision was made, the old scar being raised, when an opening in the skull of the size of the thumb-nail was exposed; this was filled by a dense membrane, which pulsated visibly. A puncture with a hypodermic needle revealed the presence of pus, whereupon the membrane was incised and nearly two teaspoonfuls of pus were evacuated. The abscess-cavity extended nearly an inch beyond the level of the skull. It was at first thought that it might be the original frontal sinus, but its depth and the evident pulsation showed that it was within the cranial cavity, although shut off from the brain by a thick layer of inflammatory material. It was packed from the bottom with iodoform gauze.

During the evacuation of the pus the patient's respiration wholly ceased, and only by practicing artificial respiration, lowering the head, and administering whisky hypodermically, could it be started again. It was a question whether this was due to the ether, to the interference with the brain, or to both factors.[*]

[The patient was presented.]

The second case was an unsuccessful attempt at removal of a sarcomatous tumor from the brain. Spurred by the brilliant, though unsuccessful, result of operative interference in cranial growths at the hands of Godlee in 1884,[†] whose case was followed by another reported by Hirschfelder and Morse,[‡] and by a third and fourth by Horsley[#] (the latter's paper, rich in suggestions, was received too late to be of use in the case to be described), surgeons will undoubtedly be led to widen their domain, and exploratory operations in this region of the body will soon become numerous. The history of an unsuccessful case will, however, serve an important purpose, and it is now intentionally brought strongly forward in order to illustrate the difficulties that surround the subject, not only for the surgeon, but for the neurologist who guides his knife.

A Case of Trephining for Sarcoma of the Brain; Temporary Relief from the Operation, but Death Ten Weeks Later; Tumor of the Cerebellum and Cord.—Mary R., aged twenty-six, was admitted into the hospital September 16, 1886, with the following history: The patient has had four operations in this hospital for sarcoma of the neck, the first two years ago, the last six months ago. During the last operation the brachial plexus was freely exposed, and the patient afterward suffered from paralysis of the left upper extremity, from which she has only partially recovered. For two months or more she has been annoyed by precipitate micturition and defecation. Six weeks ago she first noticed cramps in the calf of the left leg, which usually occurred at night and prevented her straightening the limb. About the same time she noticed that the left knee frequently gave way under her while she was standing, and once she fell in consequence. During the last week she has had occasional clonic spasms of the left leg. Frequent cramps and numbness in the left hand have been noted during the past six weeks; during the past two weeks the right has been similarly affected. For three weeks she has suffered from frontal headache, generally confined to the right side, and always worse on walking. Besides this, she often "feels as if her head was being hammered."

On examination, no tenderness is found at any part of the scalp, or over either supra-orbital nerve. There is no paresis of any muscle supplied by the cranial nerves. The right hand is perhaps a little weaker than normal, but the old paralysis of the left hand prevents any comparative test. Paralysis of the left sympathetic is shown by narrowing of the left palpebral fissure (from sinking in of the eyeball) and contraction of the pupil. The left biceps, triceps, and deltoid muscles are paralyzed, and there is paresis of the left leg below the knee. The left patellar reflex is exaggerated. Ophthalmoscopic examination shows slight optic neuritis on the left side, the disc at the point of exit of the large blood-vessels being indistinct.

September 26th.—The paralysis of the left leg has gradually increased, and at times there is twitching of the right side.

October 11th.—While waiting for further developments she became rapidly stupid, and, after consultation with Dr. Amidon, who had had the patient under observation prior to her entrance into the hospital, an operation was advised, and was performed under his directions.

Operation.—The position of the fissure of Rolando having been previously marked out, and the tumor located at the upper limit of this fissure, one inch from the median line, the scalp having been shaved at this point, a crucial incision was made, the longer cut being just in front of and parallel with the fissure. The scalp was dissected up, and with a large trephine a button of bone was removed from a spot one inch and a half to the right of the median line; this opening was enlarged with a double gouge-forceps to the size of an inch by an inch and a half. The dura mater was found to be very tense and bulging; a crucial incision was made through this membrane, whereupon the deeply congested brain-substance projected into the wound. Nothing was felt by the finger, and a needle carried in several directions encountered no resistance. As the brain now projected above the level of the skull, a piece half as large as a hen's egg was excised and reserved for microscopical examination. Its substance was deeply pigmented and very vascular. The bleeding was quite profuse, but it was checked by pressure and by Paquelin's cautery lightly applied. The flaps of dura mater were laid over the cut surface of the brain and covered by a strip of iodoform gauze, one end of which was allowed to protrude from the posterior angle of the wound. The scalp was sutured closely up to the latter point, and a dressing of bichloride gauze was applied. The iodoform gauze was drawn out forty-eight hours later. The wound healed rapidly, but within six days the brain bulged through the cranial opening beneath the healed scalp, and the hernia gradually increased until it reached the size of a hen's egg.

No unfavorable reaction followed the operation. The following signs of improvement were observed and were attributed to the lessened cerebral tension, viz., the headache disappeared immediately and did not recur. The spasms of both limbs also ceased, and a temporary improvement in the impaired muscular power of the left side was likewise observed. The portion of brain excised from its gross appearance suggested the possibility of its being infiltrated with a soft sarcomatous growth, but the microscope showed nothing abnormal. About three weeks after the operation more decided evidence of analgesia and paresis of the right side appeared more clearly, and the same phenomena were increased on the left. It was evident that the neoplasm, or a second one, was situated at the upper portion of the cord, or in or near the medulla. The patient gradually became more paralyzed, and died December 25th, nearly two months and a half after the operation. The report of the autopsy, as made by Dr. Amidon and Dr. Vought, together with the description of the tumor by the pathologist, Dr. Peabody, is appended.

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[*] This phenomenon has been noticed by others in cases of abscess of the brain. See Nancrede, "Trans. of the Am. Surg. Association," vol. ii.

[†] "Lancet," vol. ii, 1884, p. 1090, and vol. i, 1885, p. 13.

[‡] "Pacific Med. and Surg. Journal," April, 1886, p. 210.

[#] "Brain-Surgery," "British Med. Journal," October 9, 1886. Four cases are given, two operations being undertaken for tumors, with satisfactory results.

Autopsy.—The hernia cerebri, so prominent during life, had entirely collapsed. On removing the scalp, it was necessary to divide some connective tissue between the scalp proper and the more intimate covering of the hernia. There were slight adhesions around the trephine-opening, between the dura and the pia. On removing the calvaria, a considerable protrusion of apparently disorganized cerebral substance appeared at the site of the operation. The blood-vessels of the pia and the pia itself over the entire brain were normal. On making a transverse section through both hemispheres, nothing abnormal was found except a slight diffuse hardening (probably inflammatory) in the *centrum ovale* beneath the site of the operation. The ventricles were normal. At the base of the brain there was seen a grayish, translucent tumor, springing from the lower surface of the left lobe of the cerebellum and compressing the subjacent medulla, the latter being displaced forward and to the right side. The medulla was compressed at a point below the calamus, where it was much flattened. On dissection, the substance of the medulla proved to be entirely uninvaded by the growth, the connection of which with the cerebellum was very intimate. An incision through the antrum of the left cerebellar lobe showed no diffuse infiltration of that body. The fourth ventricle was invaded by the growth, but was apparently out of the line of direct pressure. Starting from the cerebellum, as described, the tumor extended down the left postero-lateral region of the spinal canal, between the dura and pia for a distance of at least ten ctm., the cord being naturally much displaced to the right side and anteriorly. The tumor was grayish, translucent, and non-vascular, and presented no evidences of inflammation at any point. It had no connection with the cerebellum, having apparently originated in the pia. Small portions of the fourth, fifth, and sixth spinal nerves were removed and were found to be normal. A small subcutaneous fibrous tumor was excised from the back, just below the right scapula.

Microscopical Examination.—Sections of the tumor of the cerebellum and cord were examined, and the growth was found to be an ordinary spindle-celled sarcoma, containing many round cells. It was not very vascular, and the stroma was not abundant. [The specimen was shown.]

Another case of supposed tumor of the cerebellum now in my wards illustrates the diagnostic difficulty of such cases, as four neurologists, after an examination of the patient, have assigned different cerebral localities to the growth. In this, and in fact in all points bearing on this subject, the admirable collection of one hundred cases of cerebral tumor, with their analysis, by Dr. W. Hale White, lately published in "Guy's Hospital Reports," * will be of great service to the investigator. Of the tuberculous growths (forty-five in number), more than half occurred in children under ten, and when found in adults, there was usually tuberculous disease elsewhere; like the carcinomatous tumors, five in number, all multiple and secondary; all these are unsuitable for surgical consideration. Out of the twenty-four gliomata and ten sarcomata (the cysts being only four in number and too rare to be considered), which alone offer a reason for surgical interference, there were only four growths that could have been removed with any certainty, two of which were gliomata, and situated in the cerebellum. Only one of the ten sarcomata was removable. Aside from the fact that the situation often precludes the operation, the frequent occurrence of infiltration in connection with sarcomatous growths will have the same effect. This infiltration existed in the case reported by Hirschfelder, in which only a portion of the neoplasm could be removed, the patient dying eight days later from suppurative encephalitis. White's other cases included five gummata, two glio-sarcomata, one lymphoma, one myxoma, and three which were of a doubtful nature. Taking into consideration the question as to whether these tumors could have been sufficiently localized during life to warrant surgical interference, White found from this clinical standpoint that three tuberculous tumors might have been removed, and that four gliomata, one sarcoma, two cysts, one myxoma, and two of the three doubtful growths, or 10 per cent. of the number, might have been operated upon, *provided a correct diagnosis* could have been made, a condition that is sadly nullified by his just statement that the best diagnosticians so frequently make mistakes, that a certain number of cases suitable for operation might be unsuccessful, because the position of the growth was not exactly defined. For further information concerning this interesting though somewhat obscure and difficult subject I would heartily refer to this article *in extenso*. For the special points in the operative technique, the best yet given is by Horsley, and is briefly summarized as follows: In addition to a strict antisepsis, he makes an oval scalp-wound and a very large cranial opening, using a trephine two inches in diameter, and replacing the bone when possible. The dura mater is incised in a circular manner, and is turned back like a large flap. In incising the brain, the cuts should be vertical and directed into the corona radiata to avoid damage. Hæmorrhage should be checked by pressure; drainage of the wound is also urged. Stress is laid by him on the immediate bulging out of the brain as indicative of a tumor. It was noted in all three of his cases and in my own; it is not met with, he says, in healthy animals on which he has tested this experimentally. This is, therefore, a symptom of intra-cranial pressure of high importance.

On the neck seven operations were performed, viz.: two for sarcomatous tumors, one for removal of a huge secondary glandular epithelioma (thought to be sarcoma until the microscope corrected the diagnosis; time subsequently showed what had escaped previous detection—primary trouble in the œsophagus at the level of the cricoid), one for keloid of the neck, and two for papillomata of the larynx. The latter can be summarized in a few words.

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* Vol. xxviii, series 3, 1885–'86.

The first case was one of *crico-laryngotomy*. The patient was a girl, eight years of age, who had lost her voice a few months previously, and had recently had frequent attacks of dyspnœa. Since Dr. Lefferts was unsuccessful in his attempts to extract the growth through the mouth, in spite of the courageous assistance of the patient, she was sent to the hospital to have thyreotomy performed. This was done under ether, November 6, 1886. A preliminary tracheotomy below the isthmus having been done, the cricoid cartilage was divided unintentionally, and then the thyreoid, so that the whole larynx was thus laid open, a perfect view of the growth being obtained. It was attached anteriorly to the left side just below the cord; after its removal with slender scissors, its base was touched with chromic acid; the thyreoid and cricoid cartilages were accurately sutured with catgut, as well as the entire wound. The tube was kept in until the next day, when the breathing became rapid and signs of broncho-pneumonia appeared. As the larynx was pervious, the tube was removed, as being a possible source of irritation. The patient passed through a prolonged convalescence, and during the first week of her illness, in consequence of the coughing and the catgut which I now think was wrongly selected for sutures, the wound in the lower part of the thyreoid and the cricoid gaped widely, necessitating the use of two wire sutures to close them, at the expense of exact coaptation. The patient's voice was restored, but when she left the hospital (December 20th) she was still hoarse. The wound had healed perfectly. The risk of voice impairment led in the second case to a change in the operative procedure, at the cost, however, of thoroughness of the removal of the growth.

Cricotomy for Papilloma of the Larynx.—A girl, aged two years, was sent to me by Dr. Lefferts as unsuitable for surgical treatment *per vias naturales*. She had been hoarse since she was a few months old, breathed with difficulty, and had lately had several severe paroxysms of dyspnœa. On November 20, 1886, by an incision two inches long, the cricoid cartilage and crico thyreoid membrane were divided, and the edges of this wound in the air-passages held apart, thus giving a very good view of the papilloma, which was removed in numerous small masses by means of slender forceps, fine scissors, and a small sharp spoon. The larynx above was readily explored by holding the cords open with a forceps. The wound in the cricoid cartilage was closed with catgut, and rapid recovery followed, so that by December 8th the incision had closed and the patient left the hospital breathing easily, although her voice was not restored. Subsequently it was learned that phonation became intermittent, showing that a portion of the growth had probably been left *in situ*.

In addition to the foregoing there was one operation for the removal of an *adenoma from the substance of the thyreoid gland*, after Socin's method, which has already been reported to this society, and, beside this, a rather pleasing result in the treatment of an intractable affection was obtained by the

Extirpation of a Sub-hyoid Bursa.—The tumor had existed for fifteen years in a young man of twenty-two (whose photograph is shown), and had attained the size of a small egg. It had been tapped and injected with iodine at another hospital four months before. Appreciating the difficulty of dissecting out these troublesome thin-walled cysts satisfactorily, I emptied this one with a trocar and cannula, and then injected into it melted paraffin (which liquefies at a point much below boiling-heat), and subsequently cooled it with a small bag of ice. The whole procedure did not occupy five minutes, and by its aid I was enabled, after exposing the cyst by dividing the skin and thyreo-hyoid muscles, to remove with great ease the entire sac, even up to its attachment at the posterior border of the hyoid bone, which part would undoubtedly have escaped me had the cyst remained flaccid instead of being rendered a hard, dense mass.

This method has in other instances served me well, and is to be commended, because it avoids the persistent fistula which so often results from this bursal inflammation.

Of the 52 OPERATIONS ON THE TRUNK, 5 were for tumors of the breast—viz., one simple and one cystic adenoma and three carcinomata, two of which were primary and the third a recurrent growth. In *amputating the breast for cancer* I adhered to the custom of removing not only the entire gland, but also the contents of the axilla, even though no enlarged glands were felt through the skin, or even after the axilla was opened. In doing this, the directions first given, I think, by Bickersteth, of Liverpool, have been followed—viz., to carry the incision well on to the arm on a level with the insertion of the pectoralis major, and then to tear or to cut lightly through the layer of fascia there present, when, with the aid of blunt scissors or the finger-nail, the axillary vein can be isolated throughout nearly its whole extent, especially if the pectoral muscle is drawn upward by means of a broad retractor. If it can not be so exposed, and it is necessary on account of glandular enlargements, the pectoralis major and minor are divided without hesitation. After the vein has been duly cleared, the deposit of fat in the axilla is easily peeled away from the chest-wall, any veins of considerable size being tied before being divided. On account of the size of the cavity thus made and its extension toward the angle of the scapula, it is sometimes necessary to make the drainage-opening for the axilla well below the line of incision. More important, because it is little known, is the fact that, in addition to the infected glands near the axillary vein, there is frequently found an enlargement of a lymph-vessel, together with several minute glands, which run under the pectoralis minor in a line extending toward the sterno-clavicular articulation. I have so often found these since my attention was accidentally directed to them a few years since, that now I never fail to hunt for them, and frequently find them. One patient with tuberculous axillary glands was also operated on in whom the infection had apparently come from a slight wound in the hand. There were 6 cases of hernia, 2 being strangulated, 2 irreducible, and 2 reducible, and all of the inguinal variety. The radical operation was performed of tying off the sac and sewing up the ring by Czerny's method in one case, and in the five others by tucking up the sac and sewing up the canal and ring, as suggested by Macewen. The latter operation has been simplified * by exposing the external abdominal ring and then pulling apart the tissues over the sac with forceps until the latter is reached, when it can be readily lifted out of its bed with much less disturbance and more certainty than if reached first at a point lower down. There is also less chance of suppuration, on account of the slight disturbance of the cellular tissue.

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* See a paper on "Reducible and Irreducible Hernia," by the writer, read before the New York State Medical Society, February 3, 1887. "Medical Record," March 5, 1887.

When the omentum is found in a hernia, whether reducible or irreducible, it is carefully tied off with multiple and a final encircling ligatures; where there are omental adhesions plugging the internal ring, they are detached with the finger, so as to allow the omental stump to drop back into the abdominal cavity. I am able to show here a specimen removed from a patient who died from pneumonia and kidney disease three weeks after a radical operation for a huge incarcerated omental hernia, which, after removal, weighed about twelve ounces, the sac being tied off and removed, but the ring was not closed. Everything has healed up solidly, and adhesions have formed in the vicinity of the internal ring, which shut it off entirely from the influence of intermittent abdominal impulses. I may remark here, as of some possible interest, that of the six cases recorded by Ségond, in which a post-mortem was held after tying off the sac, in only three instances was the internal ring satisfactorily closed. My individual preference (my experience in this operation being limited as yet) is for Macewen's operation, as it accomplishes better not only the closure of the peritoneal funnel at the internal ring, but also the more perfect occluding or narrowing of the inguinal canal. I have, however, discussed this question elsewhere, and shall not dwell further upon the numerous interesting points connected with the radical operation for non-strangulated hernia. The percentage of success in this operation is about 60 per cent., and from the interannular injection of Heaton, of which one case is reported, about 30 per cent. of cures can be expected in inguinal herniæ of small size, in which the oblique canal still exists as such. Chromicized catgut is used in the radical operation for sewing up the canal and ring, in preference to silk or wire.

Among the cases is one in which, after the lapse of eight months, a silk ligature caused an abscess and fæcal fistula, which closed promptly after removal of the offending body. I have for over two years endeavored to secure healing of the wound by granulation, at least in that portion of it which is situated immediately over the external abdominal ring, as this, to my mind, affords an additional barrier to the recurrence of the hernia.

On and about the rectum ten operations were performed, three for ischio-rectal abscess of unusual size, which accounts for their being included in a report from which abscesses and minor operations have been omitted, save when some point of interest could be elicited. Such an instance is shown by the four cases of *fistula in ano*, which were divided in the ordinary way. I had had some eight cases in which this affection was treated by Jenks's* method of excising the fistula, and sewing up the fresh surfaces from the bowel to the original skin-opening. In three of these eight cases, in which the fistulæ were not deep and were of moderate extent, the patients did well; in the other five the fistulæ had deeper internal orifices, and their tracts were either longer or deeper, and in two instances there were diverticula, so that it was difficult to dissect out the suppurating tract itself, and the final introduction of the sutures was not easy, especially as regarded the closure of the rectal end of the incision. After all this had been done, failure was met with in four out of the five cases. As the last trial was as unfortunate as the first, I could not attribute it all to inexperience in the operation, and hence my faith in the method has been much diminished. In the four cases of *hæmorrhoids* I have likewise returned to the so-called method of Allingham, after trying in five cases Whitehead's* plan of cutting off the pile, tying the main vessels, and then sewing together the divided mucous membrane. There was in nearly every one of these cases so much troublesome venous oozing from the divided tissues (which had been cut somewhat as in Allingham's method) that the little operation was rendered unduly prolonged and annoying, and neither was there a rapid cure nor a subsequent diminution of the pain and other discomfort often encountered in operations for hæmorrhoids. I have also, in six cases, tried the crushing off of the pile after partial section, as practiced by Mr. Allingham, and with a fairly satisfactory result; but I have at all times the feeling that the patient would be safer from the risk of hæmorrhage when the vessels are tied, and sufficient advantage has not accrued so far to warrant me in incurring this possible danger. Two cases of *stricture of the rectum* were operated upon; in one the stricture resulted from an operation performed a year before for *imperforate anus* in an infant two days old.

By an incision carried from the dimple of the anus to the coccyx, and gradually deepened, to the extent of an inch and a half along the sacral curve, until a moderately distended rectum was reached and opened. The mother was instructed how to keep the opening patent by the use of plugs and the oiled finger. However, contraction gradually took place, and in December, 1886, the child was brought to the hospital for further help, it being in good condition but suffering from obstinate constipation. The opening had contracted to the size of a pencil. Under ether this was enlarged by nicking it, and principally by a cut posteriorly, so as easily to admit my finger. A bougie is still used occasionally, but the relief is complete.

The second stricture, which was in a woman and was apparently due to parturient causes, was situated from an inch and a half to two inches from the anus; it was a fibrous stricture, with a moderate amount of ulceration, and admitted only the little finger. Instead of resorting to Verneuil's proctotomy, or the modification of the same in which the knife was used in lieu of the galvanic or wire écraseur, I adopted a plan which I have used four times during the last three or four years, with excellent results. I had found on eight occasions that, in making a free posterior incision of the rectal stricture, extending back to the coccyx, the subsequent healing of the external wound was often very tedious, frequently occupying more than a year, and was also followed by more or less loss of sphincter power. I have, as before stated, changed this incision, especially in the case of strictures situated two inches and a half from the anus, to one extending posteriorly to the coccyx or sacrum, previously stretching the anus without dividing the external sphincter. To avoid the collection and retention of secretions in this wound pouch, a puncture is made with a knife, from the tip of the coccyx to the wound in the bowel, and through this is carried a drainage-tube; in other words, a traumatic fistula in ano is made. The wound in the bowel is then packed with sticky iodoform gauze and an antiseptic dressing is applied over the anus. The bowels are kept quiet for several days, and, if the temperature shows that all is going well, the rubber drainage-tube is withdrawn on the third or fourth day. In every instance in which this plan has been tried, the tube opening has closed promptly, so that no fear need be entertained, I think, that a permanent fistula will be established. A large bulbous or rubber bougie is subsequently introduced at regular intervals according as one's judgment directs. The results as regards the recurrence of the stricture have been equally satisfactory with those obtained with the major operations, and more so as regards the rapidity of the cure. For strictures situated higher up, the open method is preferable, as it allows the surgeon to recognize and to repair any damage that may possibly be done to the peritonæum.

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* "New Method of Operating for Fistula in Ano." "Trans. of the Am. Gynæcological Society," p. 136, 1883.

* "On Hæmorrhoids." "British Medical Journal," February 4, 1882.

One case of *spina bifida* in a child eight months old was treated by injection; the tumor was of the size of a large orange, and was situated over the upper part of the sacrum. Cutaneous outgrowths extended from its base nearly to its apex, where they were lost in a thin, pellucid cyst-wall. Puncture had been tried some weeks previously, causing aggravation of the existing paralysis of the legs. The child was in robust health. A needle was thrust through the adjacent sound skin into the tumor, and about one drachm of a clear, colorless fluid (subsequently found to be free from sugar) was withdrawn, after which an equal quantity of Morton's fluid was slowly injected into it. This fluid consists of ten grains of iodine and thirty grains of iodide of potassium, dissolved in an ounce of glycerin. No special reaction followed its use, but a month later the swelling was decidedly smaller, though it is probable that a repetition of the injection will be necessary.

In the "Transactions of the Clinical Society" for 1884–1885 fifty cases were reported which were treated in this way, forty-one being successful, as opposed to twenty with five deaths after the use of simple tincture of iodine.

(*To be concluded.*)

THE USE OF
TRACTION IN THE TREATMENT OF CLUB-FOOT,

With a Consideration of some of the Mechanical Points involved, and a Description of the Antero-Posterior and Lateral Traction Apparatus.

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(*Concluded from page 261.*)

Let us now briefly study the conditions found in equino-varus, and attempt to demonstrate some of the mechanical points involved, before describing the "lateral-traction shoe."

As before stated, I formerly used the simple "lateral pusher" in treating the lateral malpositions of equino-varus, and I reproduce the original engraving that was used in my first paper on "Traction." It is shown in Fig. 22. Applied to the inner side of the foot and leg, it was intended to overcome the lateral deformities of equino-varus by a *pushing* force. It is, so far as I know, the only apparatus based upon the, strictly speaking, *pushing* principle (acting from a point above the tarsus) introduced for the treatment of the lateral deformities of talipes, though I inadvertently described it in my first essay as a "modification of Taylor's ankle support." In the "Hospital Gazette and Archives of Clinical Surgery" for January 9, 1879, about seven weeks after my first article appeared, I called attention to my error, and claimed the apparatus as my own.

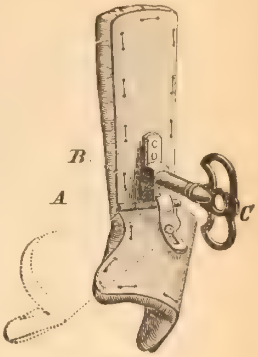

Fig. 22.

After a good deal of experience with this simple "pusher," I felt that it represented a correct principle of mechanical treatment, and that a lateral *pushing* force possessed many advantages over the lateral *pulling* force ordinarily employed. And, after many experiments, I have at last perfected a lateral *pushing* and *traction* apparatus, which enables the operator to apply a positive traction force to the deformity known as equino-varus.

But this term *equino-varus* is really a misnomer. There is some equinus present, for the heel is raised. There is some varus present, for the tarsus is turned in. If these conditions were all that marked the deformity known as equino-varus, the artificial mechanism devised for its relief need not be very comprehensive. But simple, uncomplicated equino-varus is rare in my experience.

Fig. 23 represents a sectional outline (reduced) of the normal (right) ankle of a boy of eight years. A represents the outer malleolus, B the inner malleolus. The line C D E passes through the ankle joint to the heel, E, D representing, in a diagrammatic sense, the center of the antero-posterior rotation.

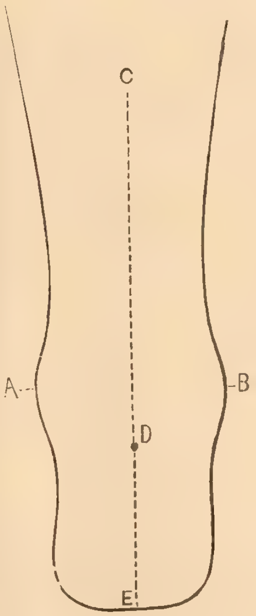

Fig. 23.

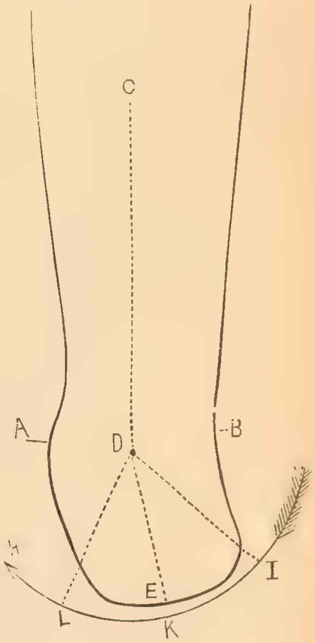

Fig. 24.

In Fig. 24 we have the same sectional view of the right ankle of a child of the same age with an ordinary equino-varus.

The outer malleolus, A, is very prominent and apparently thrown backward; the inner malleolus is not perceptible, and can not be found at the point B.

When found by palpation, the inner malleolus is discovered to be apparently in front of its normal position. The straight line C D E, of Fig. 23, changes its direction at D, in Fig. 24, and it is deflected toward the mesial plane of the body. In short, the os calcis is not only drawn up by gastrocnemius contraction, but is rotated inward on an antero-posterior axis. This is a marked feature of the deformity.

But this is not all, nor is it the worst feature of equino-varus. The anterior part of the tarsus, and to a considerable extent the astragalus, are rotated inward on a vertical axis, thus accounting for the apparent loss of relation between the two malleoli. The malleoli are normal, or nearly so, but the astragalus is turned in, and much of the deformity is due to this rotation of the astragalus.*

This can be better understood by showing with illustrations the location of the malleoli in equino-varus.

Fig. 25 represents the normal outline (reduced) of the right foot of a boy of eight years old. The relation of the two malleoli to the sole of the foot is shown at A (the outer) and B (the inner). The line C D E passes through the long diameter of the sole of the foot from "heel to toe;" through the point located diagrammatically at D.

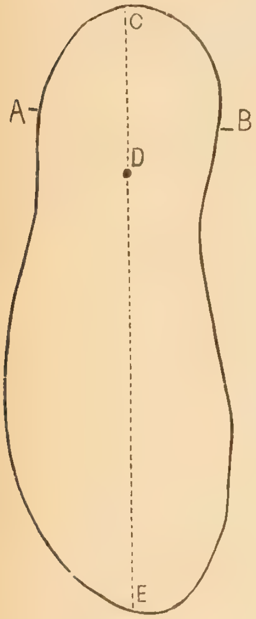

Fig. 25.

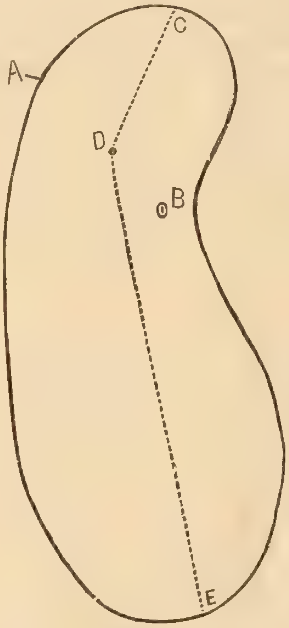

Fig. 26.

Fig. 26 is taken from the right foot of a boy, aged eight years, with equino-varus. The outer malleolus is at A. The inner is at the point corresponding with B, and the straight line C D E, in Fig. 25, becomes a crooked line, the part anterior to the point D (D E) forming an obtuse angle with that which passes from D to C.

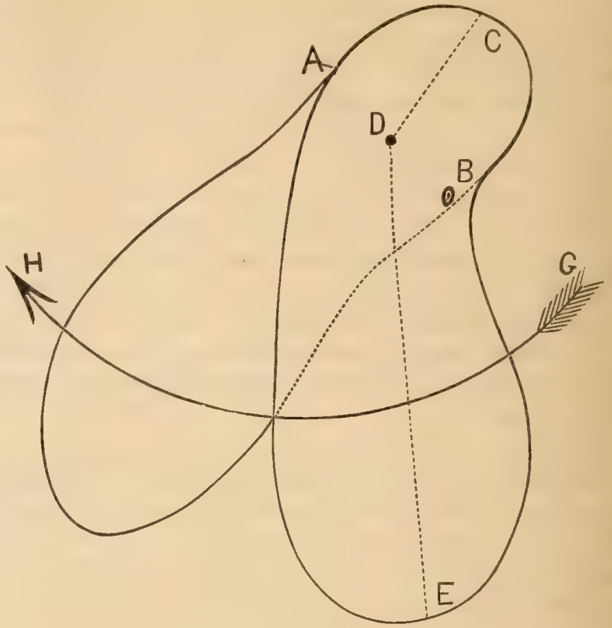

Fig. 27.

From a standpoint of mechanical treatment, the indications, so far as rotation of the tarsus, and especially the astragalus, upon a vertical axis is concerned, are plainly shown by combining these two diagrams in one. And this has been done in Fig. 27. Using the heel as a fixed point, the effort should be made to throw the anterior part of the foot in the direction of the curved arrow, G H, until the normal position, or an exaggeration of the normal position, is reached. When this is done, the two malleoli will be found in their proper positions as shown in the diagram (Fig. 27); the rotation of the astragalus and the anterior part of the tarsus upon a vertical axis will be overcome, and the leg and thigh will be found to occupy a normal relation to the tarsus.

In equino-varus (I speak especially of the congenital type) there is ordinarily no deformity or perceptible deviation from the normal in the tibia or fibula. The real deformity occurs at and below the ankle joint, the rotation of the astragalus inward, upon a vertical axis (with the ankle in extension), making an apparent outward rotation of the leg and thigh.* Under these circumstances, if the leg and thigh are placed in normal position, the malleoli are found in their proper positions. It will then be readily appreciated that the deformity occurs at a point below the inferior articulating surface of the tibia. The really difficult "lateral" deformity is not at the medio-tarsal joint, as so many teach, but is found in the rotation upon an antero-posterior and a vertical axis of all the important bones of the tarsus.

Comparing, again, Figs. 25 and 26, it will be found that the inner border of the foot is greatly curved. It is also raised, so that the cuboid bone presents in walking. This is due to the rotation upon both an antero-posterior and a *vertical axis* of the whole tarsus. In brief, there are three principal deformities in equino-varus: First, rotation of the ankle upon a transverse axis (extension); secondly, rotation of the os calcis upon an antero-posterior axis (inversion of the os calcis); and, thirdly, rotation of the tarsus upon both an antero-posterior and a vertical axis, including rotation inward of the astragalus and anterior portion of the tarsus. These three deformities are each met by a specially devised movement in the lateral-traction shoe.

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* I am aware of the fact that rotation of the astragalus has been pointed out by several writers on club-foot. But I feel that sufficient attention has not been paid to the important part it plays in the production of the deformity, or to the obstacles which this rotation presents in treatment.

* Rotation of the leg and thigh, with the knee in extension, has its seat at the hip joint.

As in lateral curvature, it is not the simple lateral deformity that is so difficult to remove as the rotation of the vertebral bones which emphasizes it, so in equino-varus it is not the simple lateral and uncomplicated antero-posterior displacements that present the greatest difficulties. It is the compound rotation of the tarsus, and especially the rotation of the astragalus and os calcis, that makes the problem of relief so difficult.*

The first indication, from a mechanical standpoint, in the treatment of equino-varus is to overcome the inversion of the os calcis (see Fig. 24) so that a fixed point may be secured upon which to apply a rotating traction force in the direction indicated in Fig. 27. The curved arrow, I K L H, of Fig. 24 shows how this force should be applied, and a glance is sufficient to show that a *pushing* force, purely lateral, is indicated. The hinged lever and screw of the simple lateral pusher (Fig. 22) meets this indication perfectly.

The second indication is to find a center of motion (the first lateral push having been applied to the os calcis) which will permit the application of a traction force that will remove the rotation of the astragalus and carry the anterior portion of the tarsus with it. The direction of this force should be *forward* and *outward*, and a study of Fig. 28 will demonstrate that this center is at a point located at or outside of the outer border of the foot in the region of the articulation of the os calcis with the cuboid bone. This point is indicated at the letter C (Fig. 28), and the curved arrow, I P E F G H J, gives the direction required, viz., forward and outward. This is the second indication.

But the heel is raised, and, unless this malposition can be removed, the lateral push to the os calcis and the rotating (traction) force applied to the tarsus will amount to little or nothing.

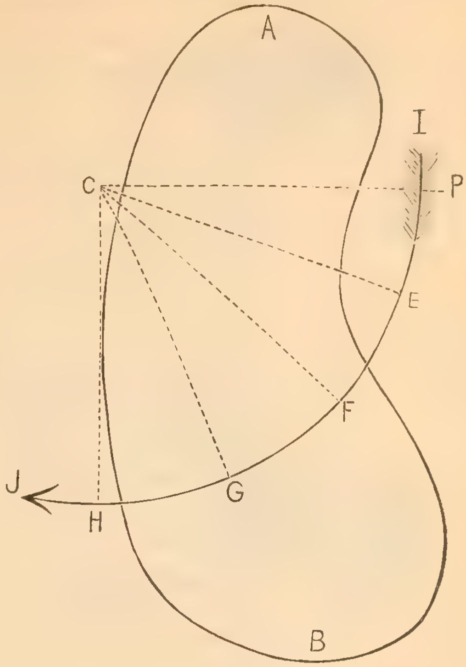

FIG. 28.

As demonstrated in the first part of this paper, the heel should pass *downward* and *forward*. By attaching the heel traction strap to the traction rod which carries the anterior part of the apparatus *forward* and *outward* upon the center C (Fig. 28), this movement may be readily accomplished. This is the third indication.

While it is necessary to restrain the astragalus by an astragalar strap, the same as in the antero-posterior traction-shoe, in order to execute all these movements—viz., the lateral push, the rotating push, and the direct traction—the movement of the apparatus when applied to the conditions of equino-varus concentrates the counter-pressure at the dorsal portion of the articulation between the os calcis and the cuboid, and the acquired position of the apparatus, when all these three movements have been applied, represents the exact reverse of the deformity. In short, as in the antero-posterior traction-shoe, the apparatus being applied exactly to the deformity, the foot is forcibly drawn into a reverse position by means of a direct rotating traction, and all the resisting tissues are reached, including the ligaments and fasciæ as well as the muscles.

The lateral-traction apparatus is based upon these three indications (the three varieties of rotation mentioned above), and I will now describe it in detail.

It consists (Fig. 29) of a calf band, A, to which is attached a single upright of annealed steel, A^1. This upright is always placed on the side toward which the deformity looks; in varus on the inside, in valgus on the outside of the leg, the instrument being a *pusher*. At a point just above the center of motion of the ankle joint is placed a *lateral joint*, C, which is acted upon by a hinged lever and screw; B^2, being a worm and screw, and O an arm which pushes the lower part of the apparatus toward the deformity to any desired extent. The distal end of this arm is free, and, as the arm is turned away from the deformity by key B¹, the foot part of the apparatus takes any lateral position required. All of the keys—B¹, E¹, and G¹—are removed, of course, after the desired lateral position is obtained and traction has been applied.

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* It is impossible for any one to voluntarily place the foot, by muscular action, in the position of confirmed equino-varus, with rotation of the astragalus; just as it is impossible for any one to place the vertebral column in the position of confirmed lateral curvature with rotation by voluntary muscular action. These facts have, it seems to me, a peculiar significance, and bear directly upon the question of ætiology. They are both exaggerated positions, not induced by simple malposition, or simple muscular action, or both. Both of these conditions present their worst features in the rotation of the small bones, which possess very limited movements in the direction of their exaggerated, deformed position.

It seems to me that both these and other allied conditions are due primarily to unilateral muscular action of the nature of a contracture or a localized arrest of muscular development, and that the exaggerated position of these small bones, their rotation, the contracture of ligaments, fasciæ, skin, and all the subcutaneous tissues, are the result of *rapid growth* in the acquired position. In no other way can I explain the exaggerated rotation, and the other phenomena observed.

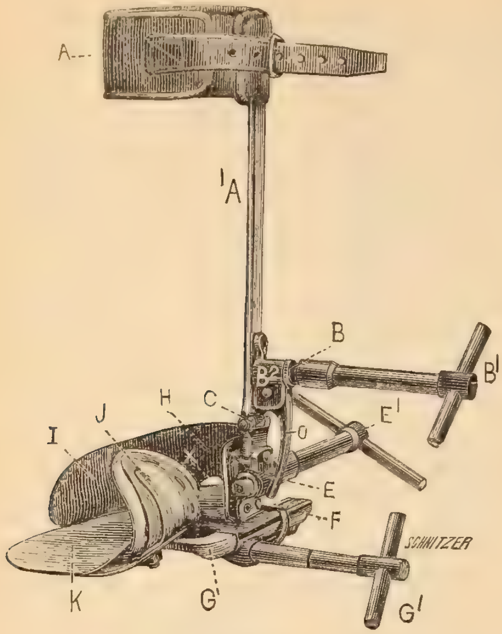

Fig. 29.

This lateral hinge, with its lever and screw, is intended to meet especially the inversion of the os calcis. It antagonizes, when traction is applied, the tibialis posticus muscle contraction as well as the shortening of the internal lateral ligament, which is frequently more troublesome than the muscular contraction. This first lateral push is important and essential.

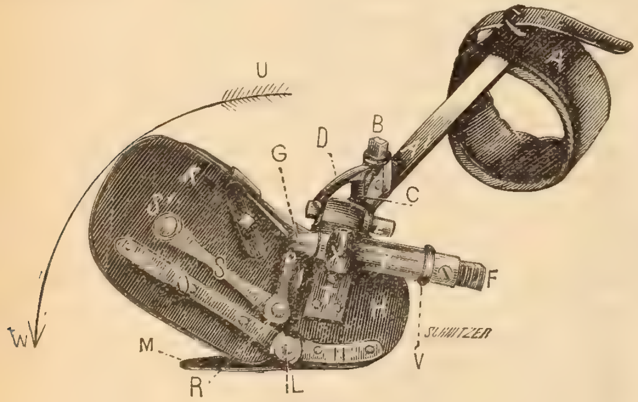

Fig. 30.

Just below this hinged lever and screw is an antero-posterior joint, E, similar in all respects to that used in the antero-posterior traction apparatus described in the previous pages. It is a simple worm and screw controlled by the key E¹. Like the worm and screw in the antero-posterior apparatus, it enables the operator to secure any desired angle of flexion and extension, and to create a plane different from that of the deformity. The traction executed by this apparatus, like that in the apparatus first described, draws the foot into this acquired plane and stretches all the resisting tissues.

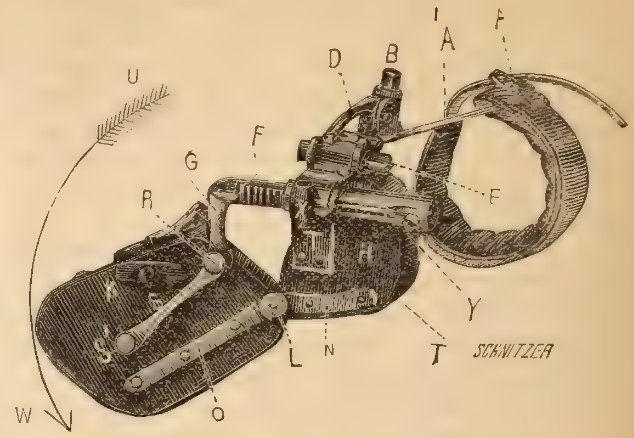

Fig. 31.

Still lower and acting upon the anterior part of the foot-plate (which is divided transversely at a point corresponding with the medio-tarsal joint) is the traction rod placed upon the inner side of the apparatus and moving in the cylinder F. It is controlled by the key G¹. This will be more fully dwelt upon when we study the under surface of the foot-plate.

There is the customary heel-cup (though this is not necessary any more than in the antero-posterior apparatus, X, Fig. 29, and H, Fig. 32) with the openings (K K, Fig. 32) through which the restraining astragalus strap is passed. The outer part of this heel-plate (M, Fig. 30; L, Fig. 32; and I, Fig. 33) is extended quite well forward at the outer border of the foot-piece to form a resistance to the rotating movement imparted to the foot by the traction rod G upon the center L. And the inner border of the foot-plate is curved over the dorsum of the foot (J, Fig. 32) in order to grasp it as it moves upon the center of motion at the outer border of the foot, as shown in Figs. 30 and 31, L. The heel-plate part of the heel-cup has the semicircular opening (P, Fig. 32) to permit the descent of the heel when the traction is applied, the same as in the antero-posterior shoe.

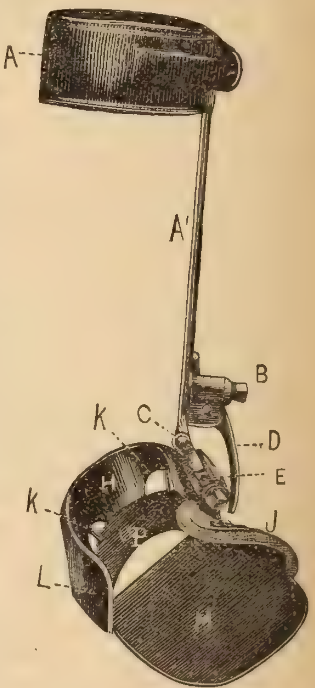

Fig. 32.

Figs. 30 and 31 show the lower surface of the foot-plate. In the former the traction rod is closed in the position of deformity; in the latter it is extended or thrown open, showing by the arrow, U W, the direction of the force applied, viz., *forward* and *outward* (compare with Fig. 28). At K, Figs. 30 and 31, is an arrangement by which the curved part of the foot-plate (J, Figs. 29 and 32) can be adapted to any position required.

Fig. 32 pictures the apparatus in a position of slight equino-varus. The lateral hinged lever and screw has been turned to meet the inversion of the heel. The antero-posterior worm and screw has been used to drop the foot into a position of equinus, and the traction rod is closed in a position of varus. By using the three movements described as being controlled by keys B^1, E^1, and G^1, in Fig. 29, a direct antagonizing traction force can be applied to almost any degree of deformity of the equino-varus type.

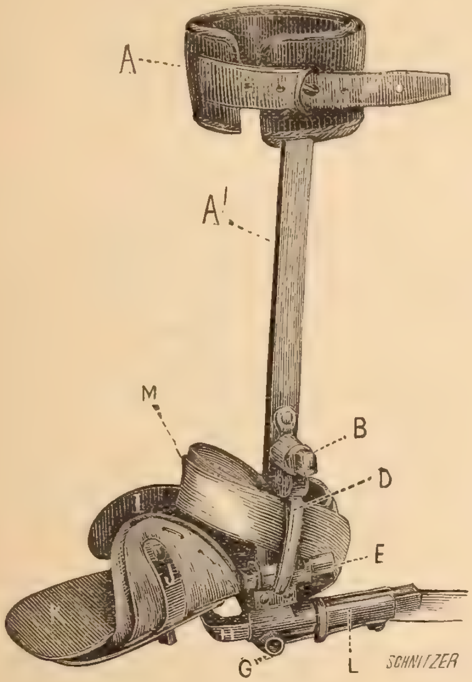

FIG. 33.

In Fig. 33 the astragalus strap, M, is shown. (The artist has made this webbing strap fully one half too wide.) It is passed through the openings in the heel-plate K K, Fig. 32, and is reflected upon itself and buckled.

The foot is prepared for this apparatus as pictured in Fig. 14. A soft pad of Canton flannel or other soft material is placed over the neck of the astragalus under a simple retaining bandage, and a traction heel-strap, with, however, a buckle attached to one end, is passed around the heel low down and the ends brought forward. The foot is now placed in the apparatus, which is made to exactly fit the deformity. The astragalar strap (M, Fig. 33) is then buckled tightly and the heel traction strap, not lettered in Fig. 14, is brought directly down, inside the heel-cup, and buckled underneath the foot-plate just anterior to the right-angled bar, P, of traction rod F (Fig. 30). This traction heel-strap is buckled tightly. (It seemed impossible to show this traction heel-strap in the engraving.) The astragalus strap (M, Fig. 33) is now loosened slightly to accommodate the upward movement of the astragalus when the ankle is forcibly flexed. All being in readiness, key B^1 (Fig. 29) is used to turn the hinged lever and screw which everts the os calcis. Key E^1 (Fig. 29) is then used to raise the foot-plate to the desired extent toward or above the right-angled position. When these two movements are satisfactorily executed, key G^1 is made to turn the foot-plate outward and forward upon the center (C, Fig. 28, and as in Figs. 30 and 31), into a valgus position, the traction heel-strap drawing the heel *downward* and *forward* as in the antero-posterior traction apparatus, while the anterior portion of the tarsus is rotated *outward*. All the movements indicated are accurately fulfilled. The traction heel-strap is especially necessary to carry the heel downward and forward, while the tarsus is being thrown forward and outward by the traction rod. If the heel is not controlled in this manner, the lateral rotating traction is rendered useless.

The location of the center of motion at the outer border of the foot-plate must be determined by the degree of lateral deformity. I have for years placed it at different points; at the very edge as in the engravings, or farther out or back, as the case demanded.

Having described briefly the two forms of apparatus used to obtain traction, I may now speak somewhat in detail regarding their use in practice, and refer to the rules which should govern the employment of the traction.

When we have to deal with the confirmed deformity of especially congenital equino-varus, it must be apparent that, in order to remove the malposition, the force applied should exceed the resistance. No one, I think, would maintain that the skin and subcutaneous tissues could tolerate a force of this nature for any considerable length of time. And experience proves that this is not necessary.

In a lecture on "Knock-knee and Bow-legs," delivered by me in 1879 and published in the "American Journal of Obstetrics and Diseases of Women and Children" (July, 1881), I called attention to the fact that the superficial tissues would tolerate a greatly exaggerated pressure for a few seconds or even moments without any unpleasant consequences, and I made this fact the basis for the mechanical treatment of the conditions there described. And this is the basis of the "Treatment of Club-foot by Traction," whether tenotomy is used or not.

The manner in which the traction apparatus should be used may be briefly described.

The first step is to adjust the apparatus, whether the antero-posterior or lateral, so that *it will exactly fit the deformity*. Then apply the heel traction and astragalus retention straps as described in Fig. 14, and secure the foot firmly in the heel-cup of the apparatus by buckling the astragalus and heel-traction straps. Apply a moderate amount of traction at first, always being sure that the astragalus retention strap is loosened (after the heel-traction strap has been made tense) to permit the upward movement of the astragalus when the ankle is drawn into flexion. Determine at the first application how much traction can be tolerated by the patient without causing pain. Proceed easily and gently at first, and after a few interviews the pressure may be increased to the desired extent without any difficulty or trouble.

After the patient is accustomed to the apparatus, keep the traction-shoe applied most of the time, using gentle traction at first, and removing the apparatus only when the patient goes out of doors for necessary exercise, or at night, when in both instances the proper passive, or retention, support is worn. When this point is gained, commence a systematic application of the momentarily exaggerated traction.

My method is to apply the exaggerated traction at intervals of one half hour or hour for the period of toleration, be it five seconds or five minutes. During the intermission little or no pressure is used, and the patient walks about with the traction shoe applied. Experience proves that what is gained during these seconds or minutes of exaggerated traction is not lost during the intermission, and a frequent repetition of "intermittent treatment" will be followed, as a rule, by a lengthening of the foot, showing that the plantar tissues are yielding; a visible lengthening of the gastrocnemius muscle soon becomes apparent, and the deformity yields to the traction.

Always insist upon careful attention and intelligent home care, and always see the patient once a day for the first few days, after which, in many cases, the mother or nurse can carry out the treatment at home, with occasional visits from the surgeon.

Under these circumstances, and with the use of proper prophylactic measures, as applied to the skin and subcutaneous tissues, excoriations will not occur. In private practice I have never seen any excoriations that interfered with progressive treatment, and in no case have I seen even slight excoriations, except as the result of neglect on the part of the attendant. The traction is tolerated well, the tissues yield, the deformity grows less marked, the muscles increase in circumference, as well as in length, under the influence of the traction, and in very many cases the knife will be unnecessary. We can, in short, restore the muscles and fasciæ, as well as the ligaments, to their normal length, and the ultimate result is a foot more nearly approximating the normal than any which I have ever seen after the usual procedure of tenotomy.

But there are some cases which do not readily yield to traction alone. They are not common, but when they occur it is an easy matter to perform tenotomy and remove the element of muscular resistance. But the patients upon whom tenotomy has been performed complain of pain much more than do those who have been treated by simple traction. In by far the greater majority of cases the pain inflicted by properly applied traction is so slight that neither the patients nor their parents complain. Adolescents and adults bear it without any complaint whatever.

I know of no rule by which any one can determine whether a given case will yield to traction, or whether it will require both tenotomy and traction. It will be a very exceptional case that does not yield to the two combined. My rule is to apply traction first, and, if it fails after a fair trial, to perform tenotomy also. And I know of no apparatus that answers so good a purpose after tenotomy as these traction-shoes. They are readily adjusted, easily applied, and the force can be regulated to any degree of indicated pressure. If tenotomy has been performed, I make a vigorous traction while the patient is still under ether, and gain all I can while the patient is still unconscious. I have even proposed to place a patient under ether and make vigorous traction without tenotomy as a substitute for this operation. But I have not done this yet. The apparatus can be made to exert a great degree of force, and I think I can say that both the antero-posterior and the lateral apparatus are constructed upon correct mechanical principles. Certainly the results obtained by their use warrant me in saying that the prediction I made nine years ago, that the use of traction would "make the necessity for tenotomy much less frequent," has been fulfilled.

I do not oppose tenotomy when necessary. I prefer, as the result is so much better, to obtain the result with traction alone if possible, even if a longer time is taken to produce it. The elongated, freely moving, and symmetrical foot obtained by traction more than compensates for the apparent loss of time. And I have seen no relapse after the tissues are once elongated by traction, as there frequently is after tenotomy.

I have had some failures with this apparatus, without tarsotomy, just as I have had many successes. But I am very certain that most, if not all, of the former were due to causes beyond the control of the surgeon, just as I am equally certain that many cases, both among adolescents and children, which have been condemned to tenotomy or even osteotomy by prominent surgeons, have been absolutely restored without operative measures by simple traction, intelligently and perseveringly applied.

In conclusion, I wish to tender my thanks to Dr. Samuel Ketch, of New York, and Dr. A. Sydney Roberts, of Philadelphia, for their courtesy in calling attention to my apparatus in articles recently published by them.

A METHOD FOR THE SURGICAL TREATMENT OF SERO-FIBRINOUS PLEURISY.*

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Among many cases of chronic pleurisy which I have seen in hospitals and in consultation, I have occasionally met with some in which the fluid had remained in the chest for several weeks or months, and in which it was impossible to withdraw it by means of the aspirator. They are usually neglected cases, occurring in persons past forty years of age, in whom the chest-wall has become rigid through partial calcification of the cartilages. There are always dyspnœa, cough, muco-purulent expectoration, and a general failure of nutrition. Though it is a well-known fact that serous effusions may sometimes remain for months without giving rise to any serious disease, yet it has been my experience to find that these cases have generally eventuated in tuberculosis, the deposit beginning almost simultaneously at both apices. The lung has become collapsed, carnified, and, where not adherent to the chest-wall, covered by a firm layer of inflammatory lymph. In order that the fluid may be withdrawn by aspiration, three things are necessary. In the first place, the lung must expand partially or completely; in the second place, if the expansion of the lung is not complete, which it rarely can be, the mediastinum must be displaced toward the affected side; and, in the third place, the diaphragm must ascend and the chest-wall sink in. With the lung in the condition alluded to, it is often impossible by the force of the aspirator to secure any considerable expansion. The mediastinum has usually been spontaneously displaced toward the affected side by the attempts at expansion of the chest-wall in breathing. The diaphragm has ascended as far as the weight of the abdominal viscera and its anatomical structure will permit; and the chest-wall, on account of its rigidity, will not fall in. We obtain, perhaps, a few ounces of serous fluid, but this soon ceases to flow, and any further attempt is simply productive of extreme pain referred to the region of the diaphragm and lower intercostal spaces. The intercostal spaces can be seen to sink in under the pressure, but this can occur to only a limited extent, and but a small quantity of fluid can be extracted. In one instance, thinking that the fluid was confined in the meshes of the coagulated lymph, I made an incision, resected a rib, and, passing a sound into the pleural cavity, broke up the bands of fibrin which were running in every direction. By so doing I obtained a few ounces more of fluid, but did not benefit the patient. It then occurred to me that the only method which promised any success in these cases was to diminish the extent of the thoracic wall by shortening the ribs, and this suggestion was made in a lecture delivered before the Asclepion Club, and published in the "New York Medical Journal" for September 11, 1886. I have since had an opportunity of testing its practicability in the following case:

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* Read before the Brooklyn Pathological Society, February 10, 1887.

P. B., aged sixty, a native of Ireland, laborer, was admitted into St. Mary's Hospital, September 10, 1886.

The patient stated that he was first taken ill the previous June, when he noticed a difficulty in breathing, fatigue from very slight exertion, and cough. He gave no account of any chill or fever. Since that time his condition had gradually grown worse, and of late he had frequently had night-sweats. He was considerably emaciated, and, upon examining the chest, it was found to be large and rounded, as is seen in the slight general emphysema of approaching senility. The left side was super-resonant throughout. On the right side, below the third rib anteriorly and below the spine of the scapula posteriorly, there was no resonance upon percussion, and the respiratory and vocal sounds were absent. There was no inspiratory expansion below the third rib, and very little above it. The respiratory movements on the left side, though limited, were good for a man of his age. Below the right clavicle, on deep inspiration and coughing, there were occasional fine subcrepitant râles, and the expiration, though somewhat prolonged, was not more so than is common in this situation. There was no elevation of temperature; the pulse was strong—about eighty beats a minute. The sputa were not examined microscopically. Aspiration was attempted, and the needle, upon being introduced through the sixth intercostal space in the axillary region, could be moved freely in every direction, even when introduced its entire length. After the evacuation of four or five ounces of a yellow serous fluid no more could be obtained, but the continued use of the aspirator was productive of great pain, and the intercostal spaces were visibly depressed. The patient's condition was otherwise so good that, though there were slight signs, as before stated, which led us to fear the beginning of a tubercular deposit at the apex, my colleague, Dr. Glentworth R. Butler, and myself thought that it would be justifiable to attempt to relieve the patient by making a resection, in accordance with the plan I have already described.

On the 4th of October the patient was anæsthetized, and we made an incision about three inches long, over the sixth rib, the middle of the incision corresponding to the mid-axillary line. The periosteum was separated for the distance of about an inch and a half, and a piece of the rib of that length removed with the chain-saw, care being taken not to wound the periosteum on the inner side of the rib. A catgut drain was introduced, and the wound closed with a continuous catgut suture. A similar incision was then made over the seventh rib, and a portion an inch and a half long removed, and the wound treated in the same way. The whole was then sprinkled with iodoform and dressed with the manilla-paper dressing of Dr. George R. Fowler.

On the 9th of October, five days after the operation, the dressings were removed, and primary union was found to have occurred in both wounds. There had been no elevation of temperature or other bad symptom. On the 18th it was observed, on palpation, that the cut ends of the ribs had come in contact; there was still some pain in the neighborhood of the cicatrices, but only on coughing or deep inspiration. A strip of strong adhesive plaster was placed on the chest to relieve the pain. The patient's general condition was apparently much improved. His appetite was better and cough diminished. He was allowed to get up and go about the ward.

On the night of October 24th he became very restless and delirious. On the 25th he was more quiet, but his speech became incoherent and he passed into a condition of mental hebetude and became very feeble. The pulse was rapid and weak, and the respiration corresponded. There was no elevation of temperature.

On the 27th the delirium increased in violence so that constant restraint was necessary in order to keep him in bed; still no elevation of temperature; pulse very feeble. On the 29th the bladder and rectum became paralyzed, and it was necessary to use the catheter. The restlessness and delirium progressed until 10 P. M., when he died.

On the post-mortem examination, which was made on the following day, I found that the union of both wounds was complete throughout. The cut ends of the ribs were in contact and firmly united by fibrous tissue without any ossification. On removing a portion of the thoracic wall, the lung was found firmly contracted and carnified, adherent down to the third rib and to the mediastinum as far down as the diaphragm, leaving a space between the lung and the ribs about one inch in depth, which was filled with serous fluid, traversed by many strong, fibrinous bands, some of them apparently in the process of conversion into connective tissue. The upper portion of the lung contained numerous miliary granulations, without any patches of lobular hepatization or caseation; it was crepitant throughout, and when thrown upon water floated buoyantly. The lower portions were carnified, but still pervious to air—that is, they did not sink in water. The apex of the left lung also contained miliary granulations corresponding in appearance to those in the right, all in the first stage, but they were not numerous enough in either lung to give rise to any marked physical signs. Neither the lower portion of the upper lobe nor the lower lobe of the left lung presented any pathological appearances. The heart showed nothing beyond some dilatation of the right side. The abdominal organs showed no lesions except in the kidneys, where there were fine gray and grayish-yellow granulations. I was not permitted to examine the brain. A microscopical examination of the lungs and kidneys, made by Dr. J. M. Van Cott, Jr., in the pathological laboratory of the Long Island College Hospital, showed that the miliary granulations were tubercular.

Death was undoubtedly due to tubercular meningitis, as there was no lesion found in any other organ which would account for the symptoms during life, or for the fatal termination.

To this accident we owe the opportunity for investigating the results of the operation.

The points which would seem to be proved by the post-mortem examination are:

1. That in a person beyond middle life, who has suffered for several months from a debilitating disease of this kind, the operation of resection of the ribs can be performed with a reasonable hope of obtaining primary union of the wound.

2. That the operation, if carefully performed, without wounding the internal periosteum or pleura, can be done without the fear of converting a serous into a suppurative inflammation.

3. That it will result in a great diminution in the extent of the cavity, as was shown by the difference in depth of the cavity at the time of aspiration and at the post mortem.

4. That it may be followed by diminution of the cough and expectoration.

Had the operation been done earlier in this case, the patient would probably have made a good recovery. On this account it would be well, when any such case is encountered, where the fluid is not reabsorbed and where its extraction by aspiration is not practicable, to operate at once with a view of allowing the side to fall in and come in contact with the lung, so favoring the absorption of the fluid and the adhesion which would subsequently result in re-expansion. It would probably be better, where the cavity is as large as in this case, to resect at least three or four ribs. Whether it would be advisable, immediately after the resection, to withdraw the fluid with the aspirator, is a question that remains to be determined by future experience; but it might be wiser to trust to its spontaneous absorption than to inflict the additional injury of a puncture upon the patient.

COMPLETE LACERATION OF THE PERINÆUM INVOLVING THE SPHINCTER ANI.*

By P. F. CHAMBERS, M. D.

Unlike many and in fact most of the ailments which fall to the gynæcologist for treatment, laceration of the perinæum, especially when it extends through the sphincter ani and involves the recto-vaginal septum, is not only susceptible of diagnosis to the specialist, but to any general practitioner, and even to the patient herself. Though one of the most difficult to cure, this is, of all the injuries treated by the gynæcologist, the one in which his failure is most easily detected and for which he will receive the severest censure. The anatomy of the perinæum is so thoroughly described in works on anatomy, and the necessity for the repair of a lacerated perinæum so ably demonstrated in works on gynæcology, that it would simply be a recapitulation of a perfectly familiar subject did I now attempt anything of the kind, and, as it is, I may be bringing forward a subject which is perfectly familiar to most of you and an operation which was performed by some of you long before I began to study medicine. I will preface my remarks, however, by saying that I claim nothing original, but simply wish to call the attention of the association to an operation and its methods of procedure which I have had the good fortune to perform eight times within the last eighteen months, and to meet with success in each case with my first attempt. There are none of us, who have had experience in trying to close a lacerated perinæum involving the sphincter ani and recto-vaginal septum, who are not obliged to recall with chagrin cases in which either we have had a failure in the union of the sphincter muscle or in which a few days after we had removed the sutures—supposing that we had been so fortunate as to have a perfect result, and in many cases having been so rash as to tell the patient and her friends that the result was satisfactory—we have found to our horror that there was just above the sphincter a recto-vaginal fistula. A failure in the first—that is, a failure on the part of the sphincter or the perineal body to unite—can readily be relieved by a second operation; but with a failure of the second, or in the formation of recto-vaginal fistula, we are compelled to confess that our patient is not only no better, but in an infinitely worse condition than before we had touched her. The parts being naturally of a delicate organization, their reparative powers are impaired by the operation, and the rule is failure after failure, whoever attempts to close the fistula. With the fistula open the fæcal matter passes into the vagina instead of by the sphincter through the anus. And, while before the operation the patient could, by exercising great care, keep herself cleanly, now she will find it an impossibility, and thereby not only be debarred all sexual obligations, but also, on account of the odor, ostracized from society and made repulsive to herself and friends.

Although, as stated above, I claim nothing original, still, from my successes, I feel warranted in taking up the time of the association to the extent of a slight description of my methods of procedure, and a comparison of the methods with those still adhered to by some of the surgeons at the Woman's Hospital, and, in fact, all over the country by those who attempt the operation at all. A very important factor in the case, but which, I believe, is adopted by all, is the preparatory treatment, which does not consist simply in giving a cathartic the night before, but in a thorough evacuation of the intestinal canal by a cathartic pill night and morning for several days before the operation, and the morning of the operation an enema, so as to entirely empty the rectum and sigmoid flexure. A warm vaginal douche is also given just before operation. The patient being etherized and placed upon her back, the legs fixed upon the chest in the lithotomy position, the operation is performed in the following manner: The torn end of the sphincter muscle, on one side, is caught up by a tenaculum, and another, in the upper angle of the laceration, catching a slight hold of the rectal mucous membrane, a strip of tissue of about one eighth of an inch in size—a small part of which is rectal muscle—is removed very carefully with a pair of scissors. The same is repeated upon the other side. Then, before continuing further with the denudation, the rectum is closed in the following manner, using for sutures silk-worm gut: The worm gut is cut into pieces of about ten inches in length, and a needle threaded on each end. With the tenaculum fastened in the angle of the laceration as a fixed point, and held so by an assistant, a needle is passed from the vaginal surface to the rectal, entering on the vaginal surface in the denuded portion, but coming out in the rectal undenuded tissue about one sixteenth of an inch below the denuded edge. The needle on the other end of the suture is passed in a similar manner, and the suture then tied. The tenaculum is then removed, and in its stead the assistant holds the ends of the worm gut, which are purposely not cut off until the next suture is passed and tied; the long ends of the first suture are then cut short, the cut ends being in the rectum, and the long ends of the second suture are then held in a similar way until the third is passed, and so on, the same process being continued throughout, the inner fibers of the sphincter ani being caught up in the same way.

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* Read at the third meeting of the Alumni Association of the Woman's Hospital.

The appearance of the parts is then similar to that of an old laceration down to but not through the sphincter. The second part of the operation consists in the denudation and stitching of the vaginal surface, and that is governed, to a great extent, by the amount of redundant tissue in the vagina. My preference is a repetition of the method adopted upon the rectal surface; but the denudation is, of course, very much more extensive, the denuded surface varying from one fourth to three fourths of an inch on each side of the line of rectal sutures, and, instead of worm gut, silver wire is used. The sutures are passed deeply, the needle entering the undenuded vaginal tissue one eighth of an inch from the denuded edge, just catching up the ridge made by the rectal sutures, and coming out in the undenuded tissue upon the opposite side the same distance from the denuded edge. Instead of twisting the wires, they are held together by forcing over them a little spiral of silver wire and above that a shot. The advantage of the spiral and shot is that, when you wish to remove the sutures, instead of having to insert the point of the scissors into the tissue to cut the wire below the twisted portion, all that is necessary is to remove the shot, the spiral will fall off, and then one end of the suture can readily be caught by the forceps and removed. The silver sutures are removed on the ninth day; the worm gut is allowed to take care of itself, unless it disturbs the patient, when it can be removed any time; but, if allowed to remain, it will disappear in from two to three weeks. The patient is kept upon low diet, and the legs are tied together. At the expiration of from four to seven days the bowels are moved by giving a saline cathartic, and, just before they act, an injection of warm water and oil; the bowels are then kept open. Should hard scybala present and threaten to do damage, it is better for the surgeon to pass his finger very gently, and thoroughly break them up. My chief motives for preference of this operation over the others are:

First.—The parts are easily brought together, and, as a consequence, there is little if any cutting in the sutures.

Second.—The parts are brought together in their proper anatomical relations.

Third.—There is very little if any pain attending the operation.

Fourth.—The operation is easily performed.

Fifth.—I have never had it fail.

In one of the eight cases I had to perform a second operation for the restoration of the perinæum, as I did not consider the perinæum I had made sufficiently deep and broad. None of the others required any subsequent treatment. I prefer the silk-worm gut over silk, catgut, or silver on the rectal surface for the following reason: The silk-worm is much more reliable than catgut, is not so quickly absorbed, and, being more inflexible, holds the parts in better apposition. It is also more easily tied, and the knot always holds. Its advantage over wire is that it is not absolutely necessary to remove it, and, being kept moist by the secretions of the rectum, its ends are soft and do not pierce the rectal wall as silver wire would. My attention was attracted to the method of first closing the septum by rectal sutures and then the vaginal, by seeing Dr. Thomas adopt it in our private hospital, and I was at once so thoroughly convinced of its superiority over all other methods that I expressed my wish to try it, which met with his hearty approval, and he has kindly given me the cases mentioned, with instructions to work up the operation into a definite system.

ON THE IMMEDIATE TREATMENT OF LACERATION OF THE PERINÆUM.

By F. E. BECKWITH, M. D.,
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The consequences of laceration of the perinæum are subinvolution of the vagina, followed by prolapsus vaginæ, and sometimes by cystocele or proctocele; and prolapsus uteri secondary to these.

In cases in which the sphincter ani is torn through, in addition to the foregoing, prolapsus recti and incontinence of fæces and intestinal gas, and sometimes chronic inflammation of the rectum.

Until recently patients failed to complain of beginning proctocele and cystocele, or prolapsus uteri, in conformity with the false tradition universally prevalent among physicians as well as midwives that these ills were the natural results of child-bearing.

This error has been perpetuated by surgical indifference and a desire to escape unfavorable criticism. Fortunately, women have learned that this accident is both frequent and unavoidable, that it causes much suffering, and that it is easily and safely remedied by surgical means.

It is almost impossible to understand how a general practitioner can fail to become familiar with the anatomy and functions of the perinæum, and the results of its rupture when of considerable extent.

It is impossible to understand how, having gained such knowledge, he can doubt the advisability of an immediate operation for its repair.

Although this subject has been hammered into foil by numberless writers, there are still to be met with practitioners who never see a case of rupture; others who do see it, but so rarely that they doubt their senses when they do; and others who regard the perinæum as of no more consequence than the hymen, and its absence after the first delivery as quite normal.

Extent of Laceration requiring Operation.—If the tear extends only to the center of the perinæum, it is unnecessary to close it by suture, although it is good practice to do so. All tears beyond this point to the sphincter ani should be immediately closed, except when, as is rarely the case, the edges of the tear are in a bruised and œdematous condition. Such ruptures are called partial, in distinction from complete, in which the sphincter ani is torn through, and in which immediate closure is unadvisable.

The question naturally arises, Why, in the latter class of injuries, is an immediate operation unadvisable? The answer lies in the fact that the operation for complete rupture, properly performed, is both difficult and tedious, and frequently fails in skillful hands, while that for partial rupture is easy and almost certain to succeed.

After the lapse of twenty-four hours an operation should not be done, but should be postponed until two months after delivery, when involution of both vagina and uterus is complete, at which time only is the operation for complete rupture certain to succeed.

When the patient shrinks, as is natural, from an immediate operation, its advisability at the close of the puerperal period should be insisted upon.

An immediate operation sometimes fails from weariness, haste, or nervousness upon the part of the attendant, with lack of surgical experience; from injurious effect of the urine and lochial discharge upon the wound; from the use of sutures in a superficial way, bringing together the margins only of the skin and leaving a deep pocket behind, in which the discharges collect.

Such an operation restores the surface only of the perineal body.

By means of *serre-fines* this thin veil can be created, but no more. A few practitioners are satisfied with this filmy result, and therefore continue to resort to their use.

Some operators use silk, others catgut or silk-worm gut, but, upon trial, all have been found inferior to silver wire of good size, either No. 27 or No. 26.

I can not add anything to what Thomas has written upon this subject in chapters ix and xi of his work upon "Diseases of Women." Who would "add another hue unto the rainbow"?

> "Its rupture furnishes one of the most fruitful sources for the absorption of septic elements, and I do not hesitate to say that thousands of women suffer throughout their lives from uterine displacements, engorgements, and vesical and rectal prolapse in consequence of injuries inflicted upon it during the parturient act. To an imperfect comprehension of the anatomy and functions of the perinæum I attribute, in great degree, the impression entertained by many practitioners that, in spite of all that is said, its rupture, so long as it does not involve the anal sphincter, is a matter of little moment.
>
> "This dangerous dogma—which, in my mind, renders him who entertains it an unfit person to be intrusted with the grave responsibilities of the lying-in chamber—is always based upon the fact that such a practitioner has seen many perinæums ruptured during labor, and even without interference on his part has, to use the common phrase, 'heard nothing of them afterward.'" (Thomas, chap. ix, p. 165.)

To justify the statements made in this paper, I should present some original evidence tending to prove—

1. That laceration of the perinæum is a frequent accident of parturition.

2. That it is not always spontaneously repaired.

3. That by immediate operation a good result is usually obtained, and almost always a better one than without operation.

I therefore offer a brief summary of the records of 200 cases of labor in primiparæ in which delivery was natural, and which were observed with the object of throwing light upon the subject before us, the immediate treatment of the ruptured perinæum:

Whole number of cases observed, 200; number in which laceration occurred, 124 (62 per cent.); number in which laceration occurred to the sphincter ani, 50 (25 per cent.); number in which no laceration occurred, 76 (38 per cent.); number of cases in which examination and record were made one month after delivery, 102; number in which such examination could not be made, and therefore excluded, 22; (*a*) number of lacerations left to nature, 73; (*b*) number operated upon, 29; (*c*) number of lacerations to sphincter ani left to nature, 21; (*d*) number of lacerations to sphincter ani operated upon, 20.

a. Results in 73 cases left to nature (all degrees of laceration):

In 5, 1 inch or more united, classed very good (6·8 per cent.); in 25, from ½ inch to 1 inch, including ½ inch, classed good (34·1 per cent.); in 18, less than ½ inch united, classed bad (24·6 per cent.); in 25 no union took place, classed failure (34·2 per cent.).

b. Results in 29 cases of lacerations operated upon (immediately), all degrees of lacerations:

In 11, 1 inch or more united, classed very good (37·9 per cent.); in 12, from ½ inch to 1 inch, including ½ inch, good (41·3 per cent.); in 6, less than ½ inch united, classed bad (20 per cent.); in 0 no union took place, classed failure (0 per cent.).

c. Results in 21 lacerations to sphincter ani left to nature:

In 2, 1 inch or more united, classed as very good (9·5 per cent.); in 10, from ½ inch to 1 inch united, not including union of ½ inch only, classed good (48·3 per cent.); in 6, ½ inch or less united, classed bad (28·5 per cent.); in 3 no union took place, classed failure (14·2 per cent.).

d. Results in 20 lacerations to sphincter ani operated upon (immediately):

In 11, 1 inch or more united, classed very good (55 per cent.); in 8, from ½ inch to 1 inch united, not including union of ½ inch only, classed good (40 per cent.); in 1, ½ inch united, classed bad (5 per cent.); in 0 no union took place, classed failure (0 per cent.).

I believe these statistics tend to establish the truth of the three propositions above made, namely—

1. That laceration of the perinæum is a frequent accident of parturition.

2. That it is not always spontaneously repaired.

3. That by immediate operation a good result is usually obtained, and almost always a better one than without operation.

It is interesting to note that among the 76 cases in which no rupture occurred there were 27 perinæa classed as elastic, and therefore not liable to rupture; and among the 124 in which rupture took place there were 6 classed as friable, and therefore certain to rupture.

The existence of such conditions should be borne in mind when the value of measures to prevent rupture is to be determined.

Correspondence.

LETTER FROM VIENNA.

Primary Abdominal Actinomycosis treated with Curetting and a Dressing of Sublimated Siliceous Guhr.—The Infectiousness of Syphilis in the Absence of Lesions.—The Porro Cæsarean Operation.—Nephrectomy.

VIENNA, *February 12, 1887.*

An interesting case of primary abdominal actinomycosis came under observation some time ago at Professor Albert's clinic. The patient, forty-three years old, had sustained a blow from a heavy hammer, which fell on his hypogastric region. In a short time he seemed to have recovered, but, nine months subsequently, a swelling appeared in the lower part of the abdomen, and he was unable to work. When he was examined at Professor Albert's clinic, a fistula was discovered in the umbilical region, which was secreting pus, and in which the characteristic granules of the *Actinomyces* were found. No swelling was disclosed in any other part of the body, and the sputum was free from the fungus. It was suggested at the clinic that the injury might have given rise to an adhesive peritonitis, and this to the formation of a solid callosity into which the *Actinomyces* had made its way from the intestine. Dr. Hochenegg, Professor Albert's assistant, who had mentioned the case at the Imperial-Royal Society of Physicians before the operation, recently communicated to the same society the result of the operation which was performed by Professor Albert. The abdominal wall was divided in the median line, from the umbilicus to the symphysis pubis, disclosing three fistulæ, differing in length, but about as large as a finger, imbedded in a solid callous tissue. The whole tumor, which was of about the size of a child's head, consisted of this colossal callosity. The fistulous tracts were laid open and scraped vigorously with a sharp spoon, after which both they and the abdominal incision were filled with sublimated siliceous guhr (*Sublimat-Kieselguhr*, a paste of siliceous earth and corrosive sublimate). At the very first change of the dressing, there were no longer any *Actinomycetes* to be found, and recovery took place in the course of a month, the callosity having wholly disappeared. Dr. Hochenegg ascribed the good result chiefly to the dressing.

At a recent meeting of the Society of Physicians, Professor Neumann made an important communication concerning the doctrine of syphilis. He read a paper on the different centers of reproduction of the syphilitic virus, and said, among other things, that he had before shown, in 1884, that, after the visible manifestations of syphilis had passed away, histological changes were still to be recognized in the skin. In such cases he had found numerous exudation cells, round and spindle-shaped, in the skin and the mucous membranes. These cells were very infectious, in the early stage of syphilis they increased and proliferated very rapidly, and they were capable of infecting healthy individuals through a lesion of the epidermis. From the presence of these residua of syphilis it was clear how infection from persons apparently healthy was possible. The formation of moist papules in situations commonly exposed to friction, to high temperature, and to maceration in sweat was explained in the same manner, also psoriasis membranæ mucosæ, effluvium capillitii, psoriasis plantaris et palmaris, and so on. In the tertiary stage the exudation cells increased much more slowly, and were less infectious and less irritating to the neighboring tissue. At a later stage, they inclined toward the formation of connective tissue and toward hypertrophy, and at last underwent a caseous destructive process. They were always present during the latent stage of syphilis, and were a continual source of danger to the health of the individual.

At the General Hospital, Professor Breisky recently performed the Cæsarean operation, in a case of narrowing of the pelvis from osteomalacia. The woman, thirty-six years old, was pregnant for the fifth time. In her first labor, delivery was spontaneous; in the second, manual aid had to be rendered, owing to a presentation of the pelvic pole; in the third, the forceps had to be applied, on account of narrowing of the pelvis; and in the fourth, which took place April 6, 1885, it seemed at first that there was no hope of delivery *per vias naturales*, but a yielding of the pelvis was suddenly manifested, which made it possible to turn and extract. On the present occasion, in the fifth labor, the pelvis was found contracted to such a degree, owing to the progress of the osteomalacia, as to demand a resort to the Cæsarean operation.

At a recent meeting of our all-absorbing Imperial-Royal Society of Physicians, Dr. Ullmann, an assistant of Professor Albert's, gave an account of the good result of a nephrectomy for carcinoma of the kidney, performed by Professor Albert. It appeared that, a year ago, the woman suffered with pain in micturition, but that the urine remained clear and yellow. Since then, a solid, smooth, movable tumor had developed in the right hypogastric region, which could be pushed back into a fossa of the right lumbar region. On injecting liquid into the rectum, the intestines became inflated and covered the swelling. There was nothing abnormal about the urine, except that blood-corpuscles were found in the sediment. Well-developed trabeculæ interfered with attempts to sound the ureters. Although there was no decisive evidence of disease of the kidney, Professor Albert made the diagnosis of tumor of the right kidney, and performed nephrectomy on the 21st of November. He made an incision from the eleventh rib downward and toward the median line. Although care was taken to avoid it, the parietal peritonæum was torn during this manipulation, whereupon the operator considerately lifted the tumor, and worked both within and without the peritonæum. After the ligation of the ureter and the vessels, there was no great trouble. The peritonæum was now sutured, a roll of iodoform gauze was applied in the neighborhood of the liver, and the abdominal wound was brought together with sutures. No fever occurred, and the patient recovered promptly. The tumor proved to be an adenocarcinoma, weighing 840 grammes. There were little knobs on its surface and little cavities in its interior; there was also a process of healthy tissue which, as was to be seen with the microscope, was continued into the carcinoma.

THE
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Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, MARCH 12, 1887.

THE PROGNOSIS IN VALVULAR AFFECTIONS OF THE HEART.

PROBABLY in nothing else is the young practitioner so much at sea as in the matter of prognosis, or so frequently the subject of derision at the hands of the laity. The importance of prognosis as an element of medical knowledge is often overlooked by authors and teachers, yet scarcely a day passes that a physician is not met with questions as to prognosis that demand for their solution a deep knowledge of the probable course, the effects, and the duration of some disease, and this is particularly true of diseases of the heart. A lad is brought to us, for example, with a damaged heart, and our advice is asked as to what course of life he ought to pursue. Shall we entail upon him a life-long course of idleness and incapacity? Another desires to marry. Shall we dissuade him from taking this step? A third is leading an active business life. Shall he be advised to retire and perhaps live in obscurity and comparative poverty the rest of his days—which may be longer than we predict? In view of the importance of such questions, the profession can but feel grateful to Sir Andrew Clark for presenting, at the last meeting of the British Medical Association, the results of his vast observation, as is to be found published in the association's "Journal." What makes his remarks of particular value to the general practitioner is the fact that they treat of cases observed in private practice for a long term of years. More than this, they throw a ray of hope and encouragement into the darkness of despair brought about by the teaching of Laennec and the subsequent pathological school. The very title under which they are grouped is comforting—"Cases of Valvular Disease of the Heart known to have existed for over Five Years without Causing Symptoms." He has tabulated *in extenso*, with great care and precision, all the cases of which he has notes, occurring between 1873 and 1886--684 cases in all. Apart from the cardiac symptoms, the persons applied for advice on account of the most varied manifestations. In selecting his cases, the author excluded all instances of mere "murmurishness," all of murmurs that were inconstant and intermittent, all of murmurs occurring within the pulmonary and tricuspid areas, and all of murmurs, of whatever kind, in patients who, independently of cardiac examinations, had subjective or objective symptoms of heart disease. Attention is drawn to some "afternoon" cases, as the author styles them (eleven in number, not included in the tables), which very graphically illustrate the long duration of cardiac disease without characteristic symptoms. We can refer only to two of them.

In one instance, in 1842, the house-governor of one of the largest hospitals in London was rejected by a life insurance company on account of a damaged heart, and was told that he might not live longer than six months. In consequence of this he was superannuated, on full pay, by the hospital committee. In 1854 this person consulted the author for indigestion, and at that time a loud, rasping systolic murmur was heard, not only in the mitral area, but all over the left side of the chest. Beyond the symptoms of indigestion, due to the patient's indiscretions, the murmur was the only evidence of cardiac disease. Without being particularly careful, he continued to live, work, and enjoy life until 1874, when, at an advanced age, he died of an acute bronchitis.

In another case, that of a lad sixteen years old, there was enlargement of the heart, a loud systolic bruit was heard in the mitral area, there were direct and regurgitant aortic murmurs, the impulse of the heart was diffuse and heavy, the cervical veins were rather full, and the pulse was somewhat jerking and collapsing. The boy said he suffered nothing, but felt quite well. The family had been told that he was the subject of grave heart disease, and the consultation had been sought for merely to ascertain by what means his life could be prolonged as much as possible. They were advised to follow out their intention of giving the lad a university education, which they did. This was fifteen years ago, and now the subject of the consultation is the incumbent of one of the largest parishes in England, and continues to pursue an active, useful, and comfortable life.

Sir Andrew Clark expresses himself to the effect that organic murmurs of the heart, although firmly established and lasting for some years, may eventually disappear, and cites several cases illustrating the fact. What are the conditions which justify a favorable prognosis in a given case of valvular heart lesion? According to the author, they are the following: (*a*) good general health; (*b*) proper habits of living; (*c*) no essential liability to rheumatic or catarrhal affections; (*d*) an origin of the valvular lesion independent of degeneration; (*e*) an existence of the valvular lesion for over three years without change; (*f*) sound ventricles of moderate frequency and general regularity of action; (*g*) sound arteries, with a normal amount of blood and tension in the smaller vessels; (*h*) a free course of the blood through the cervical veins; (*i*) freedom from pulmonary, hepatic, or renal congestion. To these must be added obedience to properly adjusted rules of health, which, however, need not interfere with the performance of the usual duties of life.

The author sums up as follows: 1. There are many persons with long-standing disease of the heart engaged in the active business of life, who, without any symptom of heart disorder, have enjoyed good health and have reached an advanced age. 2. The mitral regurgitant murmurs so often encountered in chorea disappear for the most part within eight or nine years of the attack. 3. Valvular inflammations and their effects, arising in the course of rheumatic fever, do sometimes disappear and leave behind no clinical evidence of their former existence; this occurs, for the most part, in the young, but also sometimes in the middle-aged. 4. The signs of valvular defects arising out of degenerative changes of middle life do also, on rare occasions, disappear, and, when circulatory and respiratory disturbances accompany their beginning, they sometimes subside and admit of apparently complete readjustment. 5. As there must be, in the histories, habits, occupation, and surroundings of patients with valvular disease, conditions which in one case bring about secondary disorders, and in another exempt from them, these differences should be searched for and made capable of application in practice. 6. Any systematic and critical study of the subject, likely to lead to practical issues, could be undertaken only by the Collective Investigation Committee, and not by it unless actively assisted by experienced general practitioners who possess in a special manner the knowledge necessary to the end in view. 7. A joint inquiry of the kind proposed, conducted with due patience, discrimination, and accuracy, would greatly extend our knowledge of the natural history of diseases of the heart, and largely increase our means of assisting those who suffer from them.

MINOR PARAGRAPHS.

THE POLITICAL STATUS OF THE MEDICAL PROFESSION IN ENGLAND.

The "Saturday Review" having lately expressed apprehension of the growing political influence of medical men, the "Lancet," while it admits that some improvement has been made during the last fifty years, declares that, far from there being any danger that the medical profession will constitute a political organization by itself, the deficiency of its influence in public matters is astounding. "The affectation of superiority on the part of the commercial sections of the community," it says, "tolerated by the common sense of the people, is one of the most convincing proofs that we of England have as yet no solid ground for the pretension to a front place in the intelligence of nations. In no other of the more enlightened nationalities are medical men so lightly esteemed or so grudgingly recognized as a power in the state as in our own country."

THE CITY BOARD OF HEALTH.

The Governor has at length taken action in the matter of Mayor Grace's attempt to remove General Shaler from the office of president of the board, and has ratified Mr. Grace's action. It is to be hoped that whoever is appointed as the new member of the commission will prove to be a capable and public-spirited man, but the chance of his proving to possess the requisite qualifications as to sanitary knowledge is awkwardly narrowed by the absurd provision of the law which requires that the president of the board shall not be a practitioner of medicine. It has been rumored that the place has been offered to Professor Chandler, and that he has positively declined to accept it, which is very much to be regretted.

THE STABLE REFUSE BILL.

It is gratifying to observe the energy with which an organization of ladies is protesting against Senator Cullen's bill providing a place of storage for stable refuse within the city. At a recent meeting of the society's directors, Dr. Alexander Hadden and Dr. John C. Peters appeared on the part of the Medical Society of the County of New York, and very properly coincided with the ladies in their estimate of the provisions of the Cullen bill. The impression is gaining ground that the bill has but a slender chance of becoming a law, but that impression should not be allowed to repress the wholly justifiable opposition of those who have the sanitary interests of New York at heart.

THE ACADEMY OF MEDICINE'S SECTION IN PRACTICE.

The section is to be congratulated on what we may assume will be the character of the discussion which will follow the reading of Dr. Billington's paper on "Local Treatment in Diphtheria," next Tuesday evening. In addition to the gentlemen whose names are printed on the card of announcement, we learn that three others, including Dr. J. Solis-Cohen, of Philadelphia, are expected to take part. Dr. Billington's previous papers on diphtheria proved of exceptional interest, both to the audiences before which they were read and in their published form. It is not to be wondered at, therefore, that the announcement of another contribution from him should secure the presence of a number of the busiest members of the profession.

THE APPROPRIATION FOR THE INTERNATIONAL MEDICAL CONGRESS.

In another column will be found a statement of the reduction of the appropriation made by Congress from $50,000, the sum asked for, to $10,000. We now learn that it is provided that the amount appropriated is to be expended under such regulations as the Secretary of the Treasury may prescribe, also that no part of the appropriation shall go toward paying the personal expenses of any delegate, and no money shall be expended except upon vouchers to be approved by the Secretary of the Interior.

THE "MEDICAL STANDARD."

This is the title of a new monthly journal the first number of which, dated February, 1887, has recently reached us. It is a large octavo of thirty-two pages, very handsomely printed and having an attractive table of contents, including original contributions, editorials, abstracts, society reports, book notices, and miscellaneous items. It is published by Messrs. G. P. Engelhard & Co., of Chicago. We do not find the editor's name mentioned, but it is abundantly evident that his work has been done with unusual ability.

THE "SACRAMENTO MEDICAL TIMES."

The first number of a new monthly journal with this title, dated March, 1887, has been received by us. It is an octavo of forty-two pages, edited by James H. Parkinson, L. R. C. S. I. The first issue contains a judicious arrangement of original articles, reports on the progress of medicine, society proceedings, and editorials. The "Times" makes a creditable appearance, and will doubtless prove a valuable addition to the list of our periodicals.

ITEMS, ETC.

The Medical Microscopical Society of the City of Brooklyn.—A meeting of physicians interested in microscopy was held at the house of Dr. Herbert Fearn, 196 Clermont Avenue, Brooklyn, on Wednesday evening, February 16th, and a society with the foregoing title was organized, having medical microscopy for its object. The society is to meet on the first Wednesday evening of each month. Officers were elected as follows: President, Dr. William H. Bates; vice-president, Dr. Arnold Stub; secretary, Dr. Frank M. Hoyt; corresponding secretary, Dr. Henry D. Bliss; treasurer, Dr. Albert Brinkman.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 8, 1887:

DISEASES.	Week ending Mar. 1.		Week ending Mar. 8.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	8	4	6	5
Scarlet fever	63	15	54	15
Cerebro-spinal meningitis	5	5	2	2
Measles	250	34	213	17
Diphtheria	55	38	93	39
Small-pox	20	3	15	1

The Medical Department of Howard University, of Washington, held its eighteenth annual commencement exercises on Wednesday evening, the 9th inst., when degrees were conferred in medicine, in dentistry, and in pharmacy. An address to the graduates was delivered by Professor Thomas B. Hood.

The Medical Department of the University of the City of New York held its forty-sixth annual commencement exercises at the Academy of Music on Tuesday evening, the 8th inst. The degree was conferred on a hundred and fifty-one candidates.

The Wakley Convalescent Home.—The "British Medical Journal" announces that the late Dr. Wakley bequeathed to the University College, of London, his residence at Longcross, together with eight acres of land, for the purposes of a convalescent home for patients from the hospital, as a memorial of his father, the founder of the "Lancet"; also £1,000 to be expended in the maintenance of the home, at the rate of £200 a year.

The European Faculties.—According to the "Lancet," Dr. Hofmeier has been given temporary charge of the late Professor Schroeder's clinic at the University of Berlin; Professor Zweifel, of Erlangen, has accepted the chair of obstetrics at Leipsic; and the chair of chemistry at Bordeaux is advertised as open to competition.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 20, 1887, to March 5, 1887:*

Tesson, Louis S., Captain and Assistant Surgeon. Ordered for duty as attending surgeon at Headquarters, Division of the Missouri, and examiner of recruits at Chicago, Ill. S. O. 44, A. G. O., February 24, 1887.

Barrows, Charles C., First Lieutenant and Assistant Surgeon. Resignation accepted by the President, to take effect February 17, 1887. S. O. 42, A. G. O., February 19, 1887.

Black, Charles S., First Lieutenant and Assistant Surgeon. Ordered from Fort Clark, Texas, to Fort Davis, Texas. S. O. 23, Department of Texas, February 18, 1887.

Mason, Charles F., First Lieutenant and Assistant Surgeon. Resignation accepted by the President, to take effect March 25, 1887. S. O. 44, A. G. O., February 24, 1887.

Greenleaf, Charles R., Major and Surgeon. Ordered for duty in the office of the Surgeon-General of the Army. S. O. 41, A. G. O., February 18, 1887.

Huntington, D. L., Major and Surgeon. Will be relieved from duty in the office of the Surgeon-General, to take effect March 1, 1887. S. O. 41, A. G. O., February 18, 1887.

Huntington, David L., Major and Surgeon. Ordered for duty at San Diego Barracks, California, and granted leave of absence for one month from March 1, 1887. S. O. 45, A. G. O., February 25, 1887.

White, Robert H., Captain and Assistant Surgeon. On being relieved by Major Huntington, to proceed to Angel Island, California, and report to commanding officer for duty at that post. S. O. 45, A. G. O., February 25, 1887.

Gray, William W., Captain and Assistant Surgeon. Leave of absence for seven days is extended twenty-three days. S. O. 13, Department of Dakota, February 21, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the five weeks ended March 5, 1887:*

Guitéras, John, Passed Assistant Surgeon. Granted leave of absence for twenty-one days. February 28, 1887.

Pettus, W. J., Assistant Surgeon. To proceed to Charleston, S. C., for temporary duty. February 28, 1887.

Society Meetings for the Coming Week:

Monday, *March 14th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); Lenox Medical and Surgical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *March 15th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Society of the County of Kings; Ogdensburg, N. Y., Medical Association.

Wednesday, *March 16th:* Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); Medical Society of the County of Alleghany, N. Y. (quarterly); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological).

Thursday, *March 17th:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *March 18th:* Chicago Gynæcological Society.

Saturday, *March 19th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Roman Medical Society (private).

Letters to the Editor.

THE OBLIGATION TO OBSERVE OFFICE-HOURS.

New York, *March 8, 1887.*

To the Editor of the New York Medical Journal:

Sir: If a physician announces certain office-hours, does he not incur an obligation to observe them? And is it not an evidence of moral obtuseness on his part for him to expect the persons waiting to see him to take it as a matter of course that he is generally from one to three hours late in appearing and beginning his morning's business? What, may I ask, do you think of such conduct? An Impatient Patient.

⁂ An occasional failure to keep the appointment implied in a public announcement of office-hours is unavoidable, and we have no doubt our correspondent would overlook it; but habitual laxity in this matter seems to us discreditable, not to say reprehensible, and is pretty sure, we think, to impair the support given by the community to those who are addicted to it.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Annual Meeting, January 6, 1887.

The President, Dr. A. Jacobi, in the Chair.

The Antiseptic Treatment of Summer Diarrhœa.—A paper with this title was read by Dr. L. Emmett Holt. [See page 113.]

Dr. R. W. Wilcox had employed naphthalin in thirty-two cases of diarrhœa, chiefly in adults, and he had come to feel as much confidence in its efficacy under certain circumstances as in mercury in the treatment of syphilis or quinine in the treatment of malarial affections. The most frequent cause of failure with naphthalin in the treatment of diarrhœa in adults was the neglect to administer it in sufficiently large doses. He gave sixty grains a day, and had given as much as a hundred and twenty grains. He gave it in capsules, with oil of bergamot. Histories of typical cases were related in which its use had resulted in the cure of chronic diarrhœa of years' duration. He had also given it in two cases of typhoid fever, and thought that it acted as an antipyretic by disinfecting the intestinal tract.

Dr. Andrew H. Smith said it had often occurred to him that the best way of managing cases of summer diarrhœa was to treat them antiseptically. He thought the success attending the use of many domestic remedies was due to their antiseptic qualities—such remedies as the mints and essential oils. As far as his experience extended, it corresponded with that of the author.

Dr. R. Van Santvoord had had considerable experience in the treatment of summer diarrhœa in inmates of the Randall's Island Hospital, and he thought the general conclusions of the author should be strongly emphasized—viz., that a diarrhœa was primarily a result of indigestion, and that, when a diarrhœa continued, and there existed inflammatory changes within the intestine, probably caused by putrefaction and fermentation, the indications were to render digestion what it should be by preventing such fermentative and putrefactive changes. With reference to the use of opium, he had been accustomed to employ it only when the passages were watery and frequent, and he administered it subcutaneously, together with atropine. He regarded the effects of bismuth as due to an antiseptic, and not to a mechanical, action. When he employed it he gave directions for taking it after each meal. He had recently used free injections of some astringent solution, to wash out the colon; to remove the mucus which covered the membrane, he combined some alkali with the injection. He had a general impression in favor of the method. Nothnagel's observations suggested the value of adding a little salt.

The President heartily agreed with what Dr. Holt had said regarding antiseptic treatment. Thirteen years ago he had expressed in a paper the view that bismuth was an antizymotic. He thought it was impossible to relieve a severe attack of summer diarrhœa without stopping the ingestion of milk for a number of days. There were plenty of substitutes, and the one which he had used most was raw white of egg mixed with some farinaceous substance, usually barley-water. While raw beef was often beneficial, its use was attended with the danger of developing tape-worm.

Dr. G. L. Peabody had, during the last year, come to look upon naphthalin as a very valuable addition to our remedies in the treatment of a variety of intestinal complaints. He was confident he had seen several cases of typhoid fever, in which the patients had entered the hospital in the early stage, apparently aborted with naphthalin. He gave sixty or eighty grains during the twenty-four hours, in repeated doses. In a man who had had diarrhœa for twenty-one years, with never fewer than seven movements a day, naphthalin was employed, and within ten days he was entirely cured. Other severe cases had been treated with this drug with marked results.

Dr. W. M. Carpenter said, as bearing on the antiseptic treatment of diarrhœas, that he had seen greater benefit from the regular use of old cider, a glassful three times a day, than from any other remedy in patients who had contracted the diarrhœa in the army. He had also seen chronic cases of diarrhœa, those dysenteric in character, and also some of the tubercular variety, greatly benefited or cured with salicin.

NEW YORK SURGICAL SOCIETY.

Meeting of February 9, 1887.

The President, Dr. Charles McBurney, in the Chair.

A Case of Cirsoid Aneurysm treated by Simultaneous Ligature of both of the External Carotids.—Dr. T. M. Markoe presented a patient with the following history: James S., aged twenty, a marine, about five years ago had been struck with a club on the left side of the head near the parietal eminence. A small lump had remained after the injury, which had slowly increased in size, and in the course of two years had become a pulsating tumor. He was admitted into the New York Hospital the last of June, 1886, and then presented a large, soft, fluctuating tumor, situated over the left parietal bone, toward which several large and tortuous branches of the temporal artery converged, and into which they manifestly opened. The same condition existed, though to a less degree, on the right side. The occipitals seemed to be but slightly involved. The pulsation was very marked in all parts of this mass of enlarged vessels, notably so in the central enlargement. A thrill was felt on placing the finger upon the vessels, and also a feeble bruit. The entire series of vessels was easily compressible. The patient had no pain, only a sense of discomfort about the head, and when he stooped, or made a violent effort, he felt a distressing sense of distension. The same was true if he indulged in drink. He was very anxious to obtain relief, as the tumor had grown so rapidly as to cover the entire left side of the scalp, and the vessels were beginning to dilate on the opposite side. It was decided to tie both of the external carotids, a procedure warmly advocated by Bruns, of Tübingen, because it seemed as if the circulation through the scalp could thus be controlled most effectually. The operation was performed on July 9th, and the dressings were not disturbed until the 27th, when it was found that the wounds had healed perfectly except at one small point, which was well in a few days.

It was found at the time of the operation that the central mass consisted of a large ampulla, with which several dilated arteries communicated. The pulsation had ceased after the operation and the dilated vessels had gradually disappeared, but the ampulla still remained, although it no longer pulsated. Although the cure in this case was not perfect, ligation of the carotids seemed to give the best results. Extirpation of the tumor was another alternative, but it was limited to cases in which the mass was circumscribed. It was sometimes successful, but often fatal.

In reply to a question from Dr. Wyeth, the speaker said that the carotids had been tied below the lingual arteries so as to control the circulation through the occipitals. There had been very few cases in which any operation had been perfectly successful except those in which extirpation could be accomplished.

He recalled an instance in which the late Professor Van Buren had tied in succession every artery that entered the tumor, without producing any visible effect upon it. If employed in any early stage of the disease, this operation of ligature of both external carotids promised much.

Dr. Wyeth remarked that this was the first case that he had seen in which both carotids were tied to cure cirsoid aneurysm. Up to within twelve years the external carotid had only been tied about sixty-seven times, but since then the operation had been performed very often, and there had been, so far as he had noticed in the journals, no dangerous secondary hæmorrhage in any instance where animal ligatures had been used. The speaker said that he had tied the external carotid five times below the origin of the lingual (on both sides in one instance), and even at the very point of bifurcation.

Dr. Stimson said that there still seemed to be marked pulsation in the vessels, and he asked if it might not increase.

Dr. Markoe replied that the pulsation was certainly diminishing; it was possible now, he added, either to inject some coagulating fluid or to excise the entire mass, if it seemed desirable.

Dr. Stimson remarked that in the successful cases which had been reported the central cavity itself had been destroyed; tying the arteries was only a preliminary step in the operation, which alone was rarely sufficient to effect a complete cure.

The President doubted if it was possible to effect a radical cure of cirsoid aneurysms without encircling the entire tumor. He had produced some benefit by tying the main artery, but the pulsation had eventually returned. His last case had been one of large pulsating orbital tumor, to cure which he had ligated the common carotid artery, when the pulsation had nearly disappeared, but had gradually recurred. He had then dissected out the tumor entire, fifty vessels requiring ligature in spite of the fact that the main artery had previously been tied. When the patient was last seen the pulsation had stopped.

Dr. Wyeth referred to a case of Mussey's in which he had tied both common carotids, and had been even then obliged to dissect out the tumor.

Abscess of the Head of the Tibia; Resection of the Knee—Dr. Poore presented a girl, eleven years of age, who had always had some trouble in her knee. About eighteen months before it had become flexed and ankylosed. Last October he had excised the joint, and had found an abscess in the head of the tibia above the epiphyseal cartilage; this had been thoroughly scraped out and drained. The patient had recovered rapidly, the wound healing under two dressings. There was slight motion and about one inch shortening. The patella had been removed. In reply to a question from Dr. Markoe, the speaker said that he had never seen cases in which the ligamentous union had yielded after a time. In answer to the president, he stated that after scraping out the abscess-cavity he had introduced a drainage-tube through the bone. He had drained several joints in this way, and believed that a good deal of bone was thus saved.

Prolapsus Ani.—Dr. Lange announced that a patient upon whom he had performed the new operation for prolapsus ani was unable to be present. He presented a patient from whom he had removed a sarcoma of the rectum by drawing down the gut and excising it. He had attempted to form a constriction by uniting the muscles in the manner described at the former meeting. The patient had perfect control over her sphincter when her bowels were somewhat constipated, but not when they were loose. She was obliged to wear a napkin, but seldom soiled it.

Dr. Stimson examined the patient, at Dr. Lange's request, and stated that he found an orifice admitting the index-finger as far as the second joint; beyond this point there was a firm cicatricial mass which it was impossible to pass. When the patient was told to contract her muscles, the contraction of the levators ani could readily be felt.

A Hospital Experience; or, Four Months' Operative Work at the New York Hospital.—A paper with this title was read by Dr. R. F. Weir. [See page 281.]

ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL.

Third Meeting.

(Continued from page 218.)

Complete Laceration of the Perinæum, involving the Sphincter Ani.—Dr. P. F. Chambers, of New York, read a paper with this title. [See page 294.]

The President (Dr. T. A. Emmet) said that he thought the device of the spiral and its method of application were both ingenious and useful. The operation was essentially that of the interrupted suture which he had been doing for the past sixteen or seventeen years. This method seemed to him the only proper one. He believed that the secret of success in the operation consisted in moving the bowels every day—in other words, in keeping the stools soft. An important point in the operation, in case the sutures were twisted (instead of the method of the reader of the paper), was that they be not twisted too tightly.

Dr. Van Ness inquired whether, in cases in which sutures of silk-worm gut were used, as recommended by the reader of the paper, the suturing material was absorbed.

Dr. Chambers replied in the negative; a portion of them dropped out after ulceration, and the others remained, to be removed by the surgeon.

Dr. J. D. Emmet inquired as to the originator of the spiral which was used in the operation under discussion.

Dr. Chambers replied that he did not know; that his attention had been called to its usefulness two years ago, while in London, by Dr. Robert Barnes.

Dr. A. F. Currier said that he approved of the reader's method of operation, and thought that the primary closure of the rectal rent by interrupted sutures secured within the rectum was the most satisfactory method of operation which had been devised. He agreed with the reader that worm-gut was probably the best material for sutures within the rectum. In operations last year he had used catgut and whale-tendon for the rectal sutures. The former had given satisfactory results; the latter had been unsatisfactory, as it had been dissolved too quickly. The whale-tendon had also been tried without satisfactory result in a case of extensive recto-vaginal fistula just behind the sphincter ani, but in a syphilitic patient. In that case the fistula was first closed *per rectum* by a line of sutures in the long axis of the rectum, and then *per vaginam* by a line of sutures in the transverse axis of the vagina. The result had been a failure, as he feared it must be in most cases in which the tissues had been poisoned by syphilis. His attention had first been called to this fact while in the Woman's Hospital by a case in which Dr. Hunter had operated three times and had always failed of success.

The speaker believed thoroughly in the necessity of evacuating the intestines completely before performing this operation. To accomplish this, the use of cathartics should be begun at least a week before the time of operating. Failure resulted in many cases because large masses of fæcal matter forced their way down on the third or fourth day after the operation. The speaker believed with Dr. H. T. Hanks, who had made some excellent observations upon this subject, that the bowels should be moved daily and kept loose.

The President believed that the operation should never be done in cases in which there was a history of syphilis. He had called the attention of the late Dr. Bumstead to this matter, and the latter had fully coincided with his views, and had expressed his opinion to that effect.

Dr. W. G. Wylie related the history of a case that had been sent to him by Dr. W. T. Bull, in which there had been laceration through the sphincter ani, with a history of precedent syphilis. He had operated, and, although the result had not been all that could have been desired, he had succeeded in giving the patient a useful sphincter.

The President thought that this case was an exception to the rule. In his experience, operations upon the sphincter had only made the patient worse in such conditions, and, if a stricture was present, it was made worse rather than better.

Dr. E. C. Dudley said that he was in the habit of closing the rectal wound with silver wire, beginning to pass his sutures at the angle of the rent, after suitable paring of the tissues. He believed that silver was preferable to all other substances as a material for sutures. Trouble did not necessarily follow if the sutures were not removed, and he admitted that he had formerly had difficulty in removing them. Now he introduced a small Sims's speculum into the rectum, and with its aid had no trouble in removing the sutures. He believed that the best plan in respect to moving the bowels was to begin on the second or third day after the operation, and cause them to be moved daily thereafter.

Dr. A. P. Dudley said that it was an important question as to how long the sutures should be allowed to remain. He thought there was often a tendency to remove them too soon after the operation. He had done the operation five times, and had been successful in all cases but one. In that case menstruation had occurred soon after the operation was performed, and the blood had apparently softened one of the catgut sutures. A fistula remained at that point, though all the rest of the wound had healed satisfactorily. He believed that particular pains should be taken to keep the bowels open. His plan was to give citrate of magnesium in doses of a wineglass sufficiently often to keep the fæces soft. In one of his cases he had allowed the sutures, which had been shouldered and shotted, to remain twenty-three days, and the result had been a success where failure had seemed imminent.

The President thought that there should always be borne in mind, when passing sutures, an essential difference which obtained between silver and silk, or gut—viz., that the silver was unyielding, and should be passed a quarter of an inch, or more if necessary, from the edges of the wound. If the suture was properly twisted and shouldered, there would be no tendency on the part of the edges either to fold or gape, while, with any of the very flexible suture materials, which must be secured by tying, the sutures must be passed quite near the edges.

Dr. E. C. Dudley thought that the method of moving the bowels immediately after, or within a few hours after, operation was objectionable, as it was liable to excite or increase congestion, and might have an unfavorable effect upon the healing process.

Dr. J. B. Hunter said that he had done the operation under discussion eighteen times within the past six years, had sometimes found it necessary to operate two or three times before being successful, and had failed entirely in two cases. He had tried various methods, but preferred the one which was begun by raising the crest of the proctocele. He used silver for sutures both in the rectum and in the vagina. He thought that twisting the suture gave better control over the wound than the use of the spiral. Perforated shot were sufficient to secure the suture without the use of the spiral. He thought that the silver wires could usually be removed without trouble. It was important that they should be so twisted that there would be no tension upon the wound.

Dr. Chambers, in closing, said that, in his opinion, the worm-gut was more efficient for suturing purposes than either silk or catgut. He also thought it had decided advantages over silver wire. His plan was to leave the ends of the sutures hanging from the anus. Another advantage over the silver wire was that there was no irritation or pain from the worm-gut during the process of healing.

Book Notices.

Nervous Diseases and their Diagnosis: a Treatise upon the Phenomena produced by Diseases of the Nervous System, with especial reference to the recognition of their Causes. By H. C. Wood, M. D., LL. D., Member of the National Academy of Sciences. Philadelphia: J. B. Lippincott Company, 1887. Pp. 11–17 to 501. [Price, $4.]

Dr. Wood is a prolific writer, and in the past has added much to the literature of neurological medicine. His essay upon sunstroke and his researches in regard to the existence of a heat center have gone far in establishing for him a reputation as a painstaking investigator and able author. It is therefore disappointing to find him the maker of a carelessly and hastily prepared book, no matter what may be its merits in other ways. Perhaps the present unsettled state of the nomenclature of nervous diseases may have something to do with this want of system, and in his desire to be exact Dr. Wood oscillates between ætiological and pathological distinctions, and in consequence we find an eccentric disposition of matter and a want of coherency. We find, however, that what he says bespeaks a familiarity with his subject. There is a looseness of definition, with a straining after differentiation, which amounts to pessimism. This is seen in many places—noticeably on p. 202 and succeeding pages, where he considers vertigo.

Dr. Wood is an able clinician, and this makes the book valuable notwithstanding these defects of construction. His observations are practical and to the point, and show careful study of the large number of cases which have fallen under his care. In this respect the book reminds one of Wilks's excellent treatise.

The author's diagnostic suggestions are very useful, and we know of no better and more easily understood directions than those which pertain to the use of electricity (though nothing is said of the milliampèremeter), the determination of visual defects, etc.

The book concludes with a chapter upon "Disturbances of Intellection," which is based for the most part upon Folsom's article in Pepper's "System," but lacks the arrangement of the latter, and the author has not adopted the advanced form of "primary" and "secondary delusional insanity," though he loosely describes monomania. Dr. Wood is at his best in pure neurology, and in the early part of his book he seems cognizant of, and freely refers to, recent continental literature. It would appear, after reading the last chapters, upon psychiatry, that he had either never seen the classical and comparatively recent works of Schüle, Krafft-Ebing, and others, or had preferred to take their views second-hand from an American writer. Though following the fashion of modern writers by advising the medical man of the impossibility of framing a definition of insanity, he nevertheless attempts it with the usual success.

Despite these defects, the work is one that is likely to be of great use, and it certainly marks an advance in our study of neurological medicine.

Wear and Tear, or Hints for the Overworked. By S. Weir Mitchell, M. D., LL. D. Harv., Member of the National Academy of Sciences, President of the College of Physicians of Philadelphia, etc. Fifth Edition, thoroughly revised. Philadelphia: J. B. Lippincott Company, 1887. Pp. 76. [Price, $1.]

If the saying that "true ease in writing comes from art, not chance," is sound philosophy, Weir Mitchell is certainly a Raphael of the pen. His perceptive faculties are acute, his analytical powers are good, and his mode of seeing things is at once quaint and striking. That the result of these psychological attributes should be good readable prose is not extraordinary, but that there should be music as well in words and sentences presupposes something more than a good scientific mind. In truth, as we peruse the glowing pages of this most polished writer, we can not repress the thought that here is something more than a mere scientist. Truly a man who can frame such excellent periods must have an acute perception of form and color—must, in a word, be gifted with an art sense of no mean acuteness. We do not propose to enter into a detailed analysis of the contents of this excellent little book; that has been done often already. Enough that there is sense in the argument, and force, with indescribable elegance of statement.

Gout and its Relations to Diseases of the Liver and Kidneys. By Robson Roose, M. D., F. C. S., Fellow of the Royal College of Physicians in Edinburgh, etc. Third Edition. London: H. K. Lewis, 1887. Pp. xii-164.

All who have had occasion to study the literature of gout must, very early in their studies, have been struck by the fact of how few really satisfactory contributions there are to the nature of this disease. Nor is the cause for this far to seek, for ninety-nine out of every hundred writers content themselves with stating the prevalent hypotheses regarding the disease, and, as these hypotheses are, in the great majority of cases, purely speculative, or at best based on very insufficient data, the general value of such iteration may easily be calculated.

The number of those who have, by careful experiment or observation, increased our knowledge of the pathogeny of gout is very small. Garrod, Todd, Ebstein, and, to a lesser degree, Charcot, have been the principal, in fact, almost the sole contributors, and, in spite of the careful work of these investigators, we seem at present still very far from knowing the actual cause of the disease. And what is said here of gout holds equally true of all diseases characterized by perverted metabolism. Nor can we hope for greater accuracy of knowledge until the domain of physiological chemistry has been more thoroughly explored and the metabolic rôles of the various organs and tissues have been more accurately determined.

The work before us is of the usual kind—namely, a repetition of all the prominent theories which have in the last thirty years been put forth to account for the symptoms of gout, together with the author's reasons for supporting the idea that functional disturbance of the liver is an important if not primary causative factor.

The opening chapters, on pathological anatomy and pathogeny, are marked by numerous small inaccuracies or omissions, which, while not of any great importance, could just as well have been avoided. Nor is the chemistry beyond reproach, as, for instance, on p. 22, where it is erroneously stated that uric acid "exists in the urine partly free and partly combined with alkaline phosphates." In normal urine there is no free uric acid, and, so far from being combined with the alkaline phosphates, it deprives the basic sodium phosphate of a portion of its base, forming acid sodium phosphate and acid sodium urate, the former giving the urine its characteristic acid reaction. Again, in the chapter on treatment, in speaking of acid articles of diet, it is stated that these render the blood more acid and thus do harm. Now, it is well known that our acid foods consist of salts of the vegetable acids. These, when ingested, are turned into the corresponding carbonates, which render the blood more alkaline, in witness of which we have the constantly alkaline urine of the *Herbivora*.

Much space is given to a consideration of the manifold symptoms of gout, and to the relations of the disease to renal, cardiac, pulmonary, cutaneous, and nervous troubles, all of which are well considered and instructively presented. So, too, the chapter on treatment, though far from being exhaustive, can be safely recommended to the young practitioner, to whom, we presume, the volume is principally addressed.

The make-up of the book—paper, print, and binding—is admirable.

On Antiseptic Surgery and its Application in Military Hospitals and in the Field. By Surgeon-Major John Martin, Army Medical Staff. London: J. & A. Churchill, 1886. Pp. 70.

This modest little work is divided into three portions: A sketch of the history of antiseptic surgery, and a review of its principles and practice; its application in military hospitals; and its application upon the battle-field. It does not purport to deal with the subject at great length, but rather to present matters which, in the opinion of the author, are of the greatest importance in this connection. Particular attention is called to the application of antiseptic principles in the routine work of military hospitals; to the application of such first dressings as are not likely, upon removal, to disturb the clot; to the fact that dry dressings will not, as a rule, find applicability in the furtherance of this latter; and, lastly, to a new field dressing, to be carried by the bearers, consisting of squares of absorbent lint saturated with carbolized oil.

Reports on the Progress of Medicine.

MATERIA MEDICA AND THERAPEUTICS.

A Study of Solanine.—Dr. A. Geneuil ("Bull. gén. de thér.," September 30, 1886), in an exhaustive article, discusses the physiological and therapeutical properties of this drug.

Solanine was discovered by Desfosses in 1821 in *Solanum nigrum*, and it has also been found in the sprouts that form on potatoes in the spring. Hydrochloride of solanine can be obtained by dissolving the alkaloid in alcohol to which hydrochloric acid has been added, and precipitating it by ether. It is a gelatinous body, and is very soluble in water.

Physiological Action.—Solanine not having been much employed as yet, there are no instances so far of poisoning by it. In cats and dogs 10 to 40 centigrammes cause repeated vomiting and sleepiness.

Action on the Nervous System.—The bulb and medulla oblongata are more susceptible to the action of solanine than the brain, still in doses of 15 centigrammes and over the brain is influenced by it; the individual suffers from vertigo, weight on the head, and noises in the ears; others are overpowered with sleep. In toxic doses it causes violent headache, delirium, congestion of the face, and, according to Magendie, somnolence and stupor. Its effect on the bulb, medulla, and nerve-tracts is shown by analgesia of the extremities and by paresis. When it is given in toxic doses, the motor paralysis is complete and the posterior extremities of the experimented animals are always the most affected. If the dose is still further increased, convulsions and tetanic rigidity are evoked.

Action on the Organs of Respiration.—Solanine renders the respirations freer and causes dyspnœa to disappear. This effect is due to two causes: 1. Anæsthesia of the terminal filaments of the pulmonary plexus, in consequence of which the sensibility of the mucous membrane is lessened. 2. Lessening of the excitability of the bulb and the vagus at its origin. With a toxic dose there occurs paralysis of the bulb, followed by hastening of respiration, embarrassment, and finally arrest of that function.

In medicinal doses, solanine has little or no effect upon the pulse; when the dose is large, the pulse is increased in frequency. On the organs of digestion, solanine, in therapeutic doses, exhibits, according to individual susceptibility, a local effect, which is manifest by a bitter taste in the mouth, a dry and burning feeling in the pharynx, anorexia, and sometimes nausea and vomiting. Solanine is a laxative, and, like atropine, produces this effect from its influence on the intestines. The alkaloid is converted into solanidine under the influence of the gastric juice. The author has never observed any ill effects on the urinary organs. The anæsthetic effect of solanine on the skin has already been mentioned.

Local Action.—When the drug is dusted over an abraded surface a burning sensation is experienced in two or three hours, but no anæsthesia occurs. *Dilatation of the pupil* the author has not seen once in the many individuals to whom he has administered solanine, though Vulpian has seen it in children in cases of poisoning by the common nightshade. The alkaloid is eliminated by the kidneys, lungs, and skin, and hence there need be no fear of accumulation. It belongs to the same toxic group as atropine.

Therapeutics.—The author has had remarkable successes with the remedy in sciatica of ten or twenty years' standing. He gave it in doses of 15 to 20 centigrammes (2½ to 3 grains) daily. Several cases are cited in which a cure resulted in two to three days.

In cases of rheumatic neuralgia in which salicylate of sodium failed, hypodermic injections of hydrochloride of solanine proved efficacious. In a man of fifty with severe neuralgia of the circumflex nerve, which was worse at night, a cure was effected by the following dosage: On the first day, 20 centigrammes (3 grains); second day, 30 centigrammes (4½ grains); third day, 40 centigrammes; fourth day, 50 centigrammes. Vomiting occurred with the latter dose. Four cases of intercostal neuralgia and several of facial were cured in three to four days. In a case of tic douloureux of four years' standing the attacks were always relieved in twenty-four hours by a dose of 20 centigrammes (3 grains). Solanine is a valuable sedative and a true antispasmodic. It is useful in gastralgia in pills of 1 to 2 centigrammes (⅙ to ⅓ of a grain) half an hour before meals. It proved successful in a case of obstinate vomiting of pregnancy. Asthma, emphysema, muscular and acute articular rheumatism, are all affections in which the author has had good results with the drug. The ordinary dose is from 5 to 30 centigrammes (¾ to 4½ grains) three or four times a day. It is better given in pill form. For hypodermic purposes a solution of the hydrochloride in water can be used. No local ill effects occur. The author's conclusions are:

1. Solanine is a poison to the terminal motor plates of the nerves, it is a narcotic to the bulb, medulla, and nerve-tracts, and hence must take a foremost place among analgesics.

2. It may be given in large doses without danger, and possesses none of the inconveniences of morphine and atropine. It does not accumulate in the system, and should be administered especially in place of morphine.

3. It does not produce cerebral congestion even in old people, and this may be the case also in infant life.

4. In all cases where one has to combat excitation, spasm, and pain, solanine will prove most successful.

The Action of Grindelia Robusta on the Heart and Circulation.—Dr. Dobroklonsky (*ibid.*) has been experimenting, under the direction of Professor Botkine, on animals and clinically with the fluid extract of *Grindelia robusta.* The following conclusions are the results of his investigations: The drug diminishes the number of the heart-beats and increases the blood-pressure in the vessels. This effect is produced by excitation of the moderator of the heart, particularly at its center of origin in the medulla oblongata. The increase of the blood-pressure is in part due to the action of the drug on the walls of the blood-vessels themselves, and in part to the excitation of the vaso-constrictor centers in the cord, medulla, and brain. The excitability of the various nervous or musculo-nervous systems of the heart and vessels is sensibly diminished under the influence of the drug. Diminished excitability is equally noticed in the motor nerves and voluntary muscles. The nerve-centers are sooner influenced than the peripheral nerves, and these sooner than the muscles.

The therapeutic action of *Grindelia robusta* consists in lessening the frequency of the heart's beat, but as a diuretic it has little power and is much less efficacious than digitalis. The author states that he found great difficulty in obtaining a reliable specimen of the drug in St. Petersburg, and that he had to rely in his researches upon specimens obtained from America.

Cold Air in the Treatment of Fevers.—Woïtekewitsch ("Thèse de St. Petersbourg," *ibid.*) has treated eleven cases of typhoid, three cases of pneumonia, and one case of pleurisy with draughts of cold or refrigerated air. The total number of the *séances* was seventy-one. A special apparatus, similar to that of Dr. Sokolow, was employed to cool the air. Each *séance* lasted from fifteen to twenty minutes. The following results were observed: A slight and temporary diminution of the temperature, a marked lessening of the frequency of the pulse and of the respirations, amelioration of the subjective symptoms, and improvement of sleep. *The inspirations of cold air very markedly diminished the phenomena of bronchial catarrh in the febrile patients.* There were no untoward after-effects. The course of the fevers was very favorably influenced by the cold-air treatment.

These results of Woïtekewitsch and those of Sokolow tend to dispel the fear of chilling a fever patient, which, in spite of the success of the cold bath in fevers, is still prevalent to a very great extent.

Sulphate of Sparteine as a Remedy.—Dr. Hans Voigt ("Ctrlbl. für die ges. Ther.," Oct., 1886), influenced by the brilliant results Germain Sée obtained with the sulphate of sparteine in cardiac troubles, has been putting that drug to a further test in Professor Nothnagel's clinic. He employed the remedy first in eight cases of valvular affections, and afterward in cases in which the heart was secondarily affected. The author, following Sée, made use of the sphygmograph to indicate the action of the drug, which was always administered in the form of a powder in doses of 1 milligramme (1/65 of a grain). As a result of his investigations he made the following deductions:

1. Sulphate of sparteine, in very small doses, stimulates the heart, the pulse becomes fuller and higher, and the tension of the arterial system is increased. The frequency of the pulse is diminished one or two beats. 2. It manifests its effects in from three quarters of an hour to an hour after administration, which often continues longer than twenty-four hours, during which they may be increased by a repetition of the dose. An interval of two days after the drug has been given several days is advisable, for then it acts more energetically. It may be given daily for a week without any injurious effects. 3. The rhythm of the deranged cardiac contractions is restored in a few cases only; in severe affections of the heart the feeble contractions are rendered stronger, but they do not come up to the strength of the stronger contractions. 4. The movements of respiration are sometimes increased and sometimes diminished. 5. Diuresis is frequently increased. 6. Frequently slight narcosis becomes evident in the form of sleepiness. 7. Manifestations of intoxication—such as dizziness, headache, palpitation, and nausea—are seldom witnessed with small, doses, and when they do occur, pass off quickly, even on the continued administration of the drug. The infusion of sparteine can well replace that of digitalis; still its action seems to reach a climax too rapidly and is not long enough maintained to allay the severe disturbances of compensation, but with frequently repeated doses the same results may be obtained as with digitalis. It possesses a great advantage in the precision of its dosage and in its relative harmlessness.

Therapeutically, therefore, it is indicated (1) in valvular affections when compensation is beginning to be disturbed and when the pulse is small and weak, (2) in valvular affections without disturbance of compensation, for its regulating and calming effect, (3) in insufficiency of the cardiac muscles without disease of the valves, (4) in pericarditis, (5) as a diuretic, (6) and as an auxiliary after the use of digitalis.

Antipyrine Contrasted with Calomel in the Treatment of Croupous Pneumonia.—Dr. S. Posadsky ("Ctrlbl. für die ges. Ther.," Nov., 1886) selected forty-eight cases of croupous pneumonia of about equal severity, occurring in persons nearly of the same age, placed almost in similar circumstances, for the purpose of contrasting antipyrine with calomel in the treatment of that affection. The antipyrine was administered to twenty-five of the patients in doses varying from ½ to 2 grammes (7½ to 30 grains), and in quantities varying from 1 to 8 grammes (15 grains–ʒ ij) daily. Applications of ice to the head were made only when there was severe headache. Calomel was given to the twenty-three other patients in doses of ⅛ gramme (nearly 2 grains) four times daily. As in the patients treated by antipyrine, ice was applied to the head only on the occurrence of severe headache.

As a result of these investigations, it was found that the patients treated by antipyrine retained complete consciousness, but that as early as the second or third day of treatment the strength of the patient decidedly diminished and there was a marked decrease of the heart's activity, the pulse varying from 58 to 120. The respiratory movements varied from 20 to 48; the pulse-respiration ratio was 1 to 2·88. During the whole period of the antipyrine administration the patients perspired slightly, sometimes profusely. They had cough, with moderate expectoration of the characteristic pneumonic sputum. The temperature fell after the first few doses of antipyrine, but the reduction was only temporary, and on the continued administration of the drug there was a reascent of the temperature, and occasionally there was not even a temporary reduction. The average duration of the febrile period was 8·1 days, and of the local phenomena 13·5 days. Complications occurred nearly in all the cases, which often were severe, such, for instance, as collapse. The urine almost constantly contained albumin in considerable quantities, and not infrequently it contained antipyrine, which occasionally existed in large quantities, giving it a cherry-red appearance.

Exanthems from the drug were noticed in two cases, and when the dosage was frequent vomiting often occurred.

The patients treated by calomel were during the fever often in a typhoid condition, which occasionally was attended with delirium. In two of these cases antipyrine was given with the result of removing the typhoid state for a time, but heart debility set in, which was never observed when calomel alone was administered. The cough was troublesome, but expectoration was slight. Usually the patients did not perspire, and the temperature remained high until the crisis set in. The pulse-rate varied from 60 to 122, respirations were 16 to 48, and the pulse-respiration ratio was 2·93 to 1. The crisis occurred on an average on the 7·1 day, and was for the most part attended with profuse perspiration. The local phenomena continued only for nine days. Though the reduction of bodily weight during the fever was greater than in the cases treated by antipyrine, the increase in weight during convalescence was much more rapid. Albumin was detected in the urine but seldom, and then only in small quantities. Complications were much less frequent, and those resulting from the drug, such as vomiting, exanthems, etc., did not occur at all. The author, in view of the foregoing results, thinks himself justified in asserting that antipyrine in croupous pneumonia does not deserve that appellation, and that on account of its influence on the general system it should not be administered in that affection, even when a reduction of the temperature is desired. This can be accomplished by other means which do not have a deleterious influence upon the course and termination of the disease. Therefore he would not agree with those authors who assert that antipyrine has only an antipyretic and hence *not* an injurious effect.

Salicylate of Sodium giving rise to Mental Disturbances.—Dr. Julius Krueg (*ibid.*) remarks that in susceptible persons, on the continued daily administration of 3 to 5 grammes (45–75 grains) of salicylate of sodium, a condition obtains resembling the slight delirium of fever. Drinkers form particularly susceptible individuals. In large doses, or in markedly susceptible persons, the resulting symptoms may reach a threatening height. The patients are confused and delirious, and suffer from a continued series of hallucinations, attended with shouting and a desire to move about. The condition recalls the severe delirium of fever, and resembles other forms of mental disturbances following intoxication, particularly that by alcohol. In severe cases the symptoms continue for some days after the use of the drug has been stopped. In one case observed by the author the symptoms did not stop at delirium, but passed into systematic fixed delusions. The history of the case, briefly, is as follows: In 1884, toward the end of May, a man, aged fifty-eight, was attacked with pleurisy, and was ordered by his physician 15 grammes (ʒ iij, 45 grains) of salicylate of sodium daily in 1-gramme doses. On the 29th of May, 9 grammes only were taken, on account of the violent effects, which were manifest by nausea and very severe noises in the ears. He took during the three following days 3 grammes daily. On the night of the 29th of May the noises in the ears took on the character of hallucinations; he heard singing, piano-playing, etc. On the 1st of June the figures of a drawing hanging on the wall appeared to him as living beings, who were approaching and threatening him with violence. In addition, he fancied he saw dogs and cats in the room, ready to spring upon him. On account of the severity of the mental symptoms the patient was taken to an insane asylum. Here, under the use of digitalis, he fully recovered in about three weeks. The author, therefore, warns against giving large doses of the salicylate in nervous persons and in those who indulge in alcohol. In these he thinks the danger is considerable of producing a permanent affection of the mind, corresponding to the sad experience that has been gained in the administration of iodoform. He is also of the opinion that the recovery was hastened by the employment of digitalis. This drug has often proved of service in severe ringing in the ears following the use of salicylate and quinine, and also in that habitual form witnessed in many nervous persons. Krueg has employed digitalis in fresh cases of hallucinations of hearing, and has often obtained good results.

Arsenic in Certain Forms of Anæmia.—Dr. William Osler ("Ther. Gaz.," Nov. 15, 1886) quotes from Dr. Wilks "that in therapeutics we do not so much need new remedies as a fuller knowledge of when and how to use the old ones." Bramwell was the first, in 1877, to extol arsenic in certain cases of pernicious anæmia. For the present purpose anæmia is divided into primary and secondary forms. Dr. Osler has found arsenic useful in three of the secondary anæmias.

1. *The Anæmia of Heart Disease.*—Anæmia often obtains in valvular affections, and materially aggravates the cardiac distress. Arsenic is useful in these cases, particularly in children, and where iron does not agree. The clinical notes of a case of a lad aged fourteen are given, which bear out the foregoing.

2. *In Malarial Anæmia.*—The author merely adds his testimony to the well-recognized value of arsenic in chronic ague poisoning.

3. *Certain Anæmias of Gastric Origin.*—Arsenic finds its special use in the anæmia of chronic gastric catarrh, particularly in patients addicted to alcohol.

The primary anæmias are subdivided into the (1) *cytogenetic*, in which the impoverishment of the blood is associated with evident changes in the hæmatogenous tissues—the spleen, lymph-glands, and bone marrow, (2) chlorosis, and (3) pernicious anæmia. These primary anæmias are interesting from a therapeutic standpoint. Chlorosis is easily curable, while leukæmia, splenic anæmia, when not malarial, and Hodgkin's disease are considered incurable affections, and very many cases of pernicious anæmia prove obstinate to all treatment. Arsenic has occasionally been followed with temporary success in leukæmia and Hodgkin's disease, but the author's experience with it in the former disease has been unfavorable; but two patients with Hodgkin's disease made marked improvement under the long-continued use of Fowler's solution. It is a mistake to consider the remedy a specific in pernicious anæmia; that it is of benefit in some cases is undoubted, but, until more is known of the pathology and causation of that disease, it will require to be administered empirically in all cases.

Mode of Administration.—Dr. Osler usually gives the liquor potassii arsenitis, beginning, in an adult, with five minims three times a day. Occasionally this is found too much, and the dose is reduced to two or three minims. After ten days, if it is well borne, he orders an increase of a minim each day, so that by the end of the second week the patient is taking ten or twelve minims three times a day. This is kept up for a week, and then gradually increased until the physiological effects are obtained. The amount which will induce these varies with different individuals, and those who bear it best seem to improve the most rapidly. The author thinks that sometimes the small doses are not so well borne as the larger ones, and are more likely to cause gastric irritation. Young people bear it remarkably well. It is very important that the use be continued for weeks and months, with a cessation for a few days if unpleasant effects arise. It should be continued for some time after apparent recovery.

When this preparation is not well borne, arsenious acid in pills may be tried, or the solution may be given hypodermically, but ecchymosis of the tissues is likely to follow the hypodermic injections in severe anæmia. The remedy may also be given by the rectum, by which it is usually well borne.

The author would indicate three points in the further study of this subject:

1. In what secondary anæmias is arsenic beneficial? Under what conditions is it preferable to iron?

2. In pernicious anæmia, what cases are benefited by arsenic? What by iron? How shall we frame rules for our guidance in the matter, or must we still work empirically?

3. In the administration of arsenic, what is the best form and method?

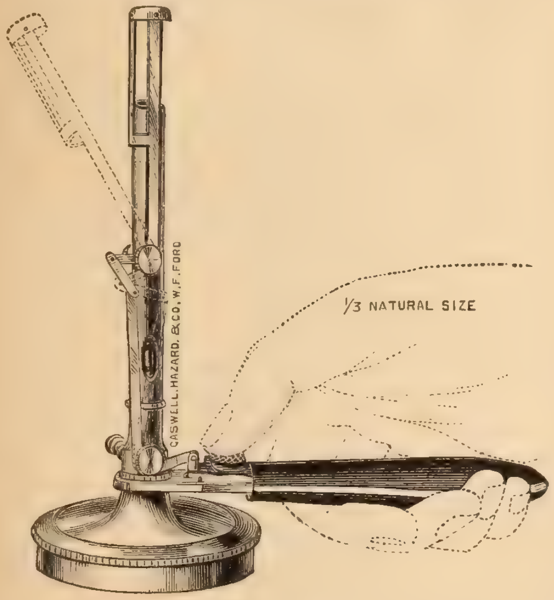
Inhalations of Pure Carbolic Acid in Pertussis.—Dr. R. Piek ("Deut. med. Zeit.," 1886, No. 75), acting on the theory that whooping-cough is due to bacilli, has employed inhalations of pure carbolic acid, by means of a peculiarly constructed mask, in five cases of that affection. From fifteen to twenty drops of the acid were used on a piece of cotton-wool attached to the mask, and inhalation was kept up the whole day when possible, and in every case at least eight hours daily. The course of the disease was decidedly modified and shortened in all the five cases. A cure ensued in about fourteen days. There were no unpleasantness or symptoms of intoxication in any of the cases. The urine was examined daily.

New Inventions, etc.

A NEW THERMO-CAUTERY.

By Græme M. Hammond, M. D.

This cautery, of which an illustration is given, was made with the intention of supplying an instrument which would be about as effective as, and at the same time much less expensive than, the Paquelin cautery. Its simplicity of construction and the facility with which it can be operated make it an instrument which can always be depended upon. It consists of an ordinary Bunsen's burner over which a platinum button is held by steel arms which are pivoted to the sides of the burner. A lever, attached from a spring in the handle to the steel arms, enables the operator, by pressing upon this spring, to throw the button at right angles to the burner. The cautery attachment does not interfere with the utility of the burner for general heating purposes. There is a slide-catch on the spring in the handle which, when in use, holds the button firmly at right angles from the burner, and thus allows any other objects, such as test-tubes, etc., to be heated in the flame. The instrument is manufactured by Mr. W. F. Ford, of Caswell, Hazard, & Co. For the benefit of physicians who live in towns where gas is not supplied, Mr. Ford will make an instrument in which an alcohol lamp is substituted for a Bunsen's burner.



Miscellany.

Scientific Terms.—"It has sometimes been questioned," says the "Lancet," "whether the use of Latin or Latinized Greek as the language of scientific nomenclature is not open to the accusation of pedantry. Some would prefer a system like the German, which to a large extent employs, besides the usual classical expressions, a set of names belonging to the native tongue. This plan has no doubt some value with a view to popular instruction; apart from this consideration it is needless and cumbersome. On the other hand, the revival of the dead languages for the same purpose has distinct advantages. Possessing a vocabulary copious, definite, and familiar to educated persons, they afford to all such the easiest means of arriving at a common understanding as to scientific facts. It can not be denied, however, that the wish for precision does sometimes lead to wordiness. Natural history, botany, medicine even, but above all organic chemistry, can show instances in which a term has so excelled in lengthy conciseness of learned description that its fitness for general use is absolutely gone. Such terms in combination would almost constitute a new language in themselves. It is needless to say that their proper place is in purely technical records. Thus placed they actually assist the expressions and understanding of the erudite. They have no convenient place in every-day life, and we find accordingly that as soon as they have to travel beyond the precincts of the laboratory they are superseded by terms which, if less fully descriptive, convey some definite idea in a simpler form."

The Alumni Association of the Long Island College Hospital.—At the recent annual meeting, officers were elected as follows: President, Dr. John Harrigan; vice-president, Dr. Robert L. Dickinson; secretary, Dr. A. H. Buckmaster; treasurer, Dr. C. N. D. Jones.

The Memphis Hospital Medical College, of Memphis, Tenn., held its seventh annual commencement exercises on Tuesday, the 1st inst., when the degree in medicine was conferred on forty-three candidates.

An Anatomical Society is likely to be formed in England, according to the "Lancet," to meet quarterly for the consideration of subjects bearing on human anatomy, embryology, etc.

The American Veterinary College.—The annual commencement exercises of this institution were held on Friday evening, the 4th inst., at Chickering Hall.

A Medical Centennarian.—The "St. Petersburger medicinische Wochenschrift" states that there is a physician in Legron, Spain, Don Rosendo Recondo, who, although a hundred years old, is in the best of health and still engaged in practice.

The International Medical Congress.—The bill making an appropriation for the congress, which when it first came before the House Committee named $50,000 as the sum to be given, has finally been passed with amendments that cut the amount down to $10,000.

Erratum.—In the article entitled "The Sixth German Medical Congress," on page 280 of last week's issue, the expression "sebaceous glands of the tongue" was given by mistake in the title of one of the papers to be read. We should have said *follicular glands of the tongue.*

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin," for the month of January, the whole number of deaths was 7,671, including in each thousand 10·16 from diarrhœal diseases, 9·38 from typhoid fever, and 52·93 from croup and diphtheria. It is added that the relative mortality from zymotic diseases has not been so low since the spring months of last year, and that there has been a material falling off in the deaths from diphtheria.

The Health of Michigan.—According to returns to the State Board of Health for the four weeks ending February 26th, as summarized by the secretary, Dr. Henry B. Baker, diphtheria was reported from thirty-four places, scarlet fever from forty-two, typhoid fever from sixteen, and measles from twenty-four.

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending March 3d:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending February 12, 1887, corresponded to an annual death rate of 19·5 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest death rate was recorded in Nottingham, viz., 14·9 in a thousand, and the highest in Huddersfield, viz., 30·1 in a thousand.

London.—One thousand four hundred and eighteen deaths were registered during the week ending February 12th, including 24 from measles, 15 from scarlet fever, 17 from diphtheria, 37 from whooping-cough, 2 from typhus fever, 7 from enteric fever, and 15 from diarrhœa and dysentery. There were 373 deaths from diseases of the respiratory organs. Different forms of violence caused 77 deaths. In greater London, 1,761 deaths were registered, corresponding to an annual death rate of 17 in a thousand of population.

Scotland.—The death rate in eight principal towns during the week ending February 12th was 22 in a thousand of the aggregate population, which is estimated at 1,283,977. The lowest mortality was recorded in Perth, viz., 13 in a thousand, and the highest in Paisley, viz., 27·4 in a thousand.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,763,843, during the week ending January 29th, corresponded to an annual death rate of 24·8 in a thousand. The lowest rate was recorded in Frankfort, viz., 14·9, and the highest in Dortmund, viz., 36·7 in a thousand.

Guayaquil.—Sixty-six deaths were registered during the week ending February 3d, including 28 from yellow fever, 6 from small-pox, and 13 from enteric fever.

Lima.—The United States minister at Lima, Peru, in his dispatch to the Department of State dated January 24, 1887, states that "the latest news yesterday from the Peruvian minister at Santiago, and consul at Valparaiso, announcing prevalence of cholera in both places, and of the Peruvian consul at Guayaquil, announcing increase of yellow fever there, only excites greater anxiety here, and further complicates mail matters both ways. The health, thus far, of both Callao and Lima is good."

Callao.—The United States consul at Callao, in his report dated February 5th, made the following statement: "No advance of the cholera from Chili north. It seems to have a southwestwardly tendency."

Montevideo.—Three hundred and fifty-five deaths were registered during the month of November, 1886, including 6 from measles, 1 from scarlet fever, 12 from small-pox, 40 from diphtheritic croup, and 4 from enteric fever. In 24 instances the cause of death was unknown, there having been no medical attendant during the last illness.

Genoa.—One hundred and eighteen deaths were registered during the week ending February 12th, including 3 from small-pox, 1 from scarlet fever, and 1 from diphtheria.

Rome.—One hundred and twenty-eight deaths were registered during the week ending January 1st, including 14 from small-pox, 2 from enteric fever, and 1 from diphtheria.

Paris.—Ten hundred and seventy-three deaths were registered during the week ending February 12th, including 32 from measles, 4 from small-pox, 17 from whooping-cough, 20 from enteric fever, 3 from scarlet fever, 39 from diphtheria, 198 from consumption, 53 from pneumonia, and 107 from diseases of the cerebro-spinal apparatus.

Reims.—Sixty deaths were registered during the week ending February 12th, including 2 from whooping-cough, 1 from scarlet fever, 2 from diphtheria, 6 from consumption. Two cases of small-pox were reported, but no deaths from that disease.

Trieste.—Ninety-seven deaths were registered during the week ending February 5th, including 4 from diphtheria. Four cases of small-pox were reported.

Warsaw.—Two hundred and twenty-two deaths were registered during the week ending February 5th, including 4 from small-pox.

Havre.—Sixty-two deaths were registered during the week ending February 12th, including 1 from enteric fever, 3 from diphtheria, and 3 suicides.

Palermo.—One hundred and nine deaths were registered during the week ending February 5th, including 5 from scarlet fever and 6 from diphtheria.

Leghorn.—Sixty-three deaths were registered during the week ending February 13th, including 1 from enteric fever.

Munich.—One hundred and nine deaths were registered during the week ending February 5th, including 1 from scarlet fever and 7 from diphtheria.

Stuttgart.—Forty-one deaths were registered during the week ending February 12th, including 1 from diphtheria.

Bremen.—Forty-one deaths were registered during the week ending February 5th, including 3 from scarlet fever, 2 from diarrhœal diseases, and 2 suicides.

Leipsic.—Seventy-nine deaths were registered during the week ending February 12th, including 6 from diphtheria and 10 from dysentery.

Pernambuco.—Fifty-three deaths were registered during the week ending February 2d, including 2 from enteric fever.

Toronto.—Thirty-eight deaths were registered during the week ending February 19th, including 1 from enteric fever and 2 from diphtheria.

Three Rivers.—Six deaths were registered during the week ending February 19th, including 1 from diphtheria.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Estimated population.	Week ending—	Total deaths from all causes.	Annual rate of mortality in 1,000.
Guayaquil...........	35,000	February 3.	66	98·3
Genoa..............	179,416	February 12.	118	34·2
Rome..............	355,026	January 1.	128	18·7
Paris..............	2,260,045	February 12.	1,073	24·7
Reims..............	98,083	February 12.	60	31·8
Trieste...	150,157	February 5.	97	33·6
Warsaw...........	431,572	February 5.	222	26·8
Havre......	112,074	February 12.	62	28·8
Palermo...........	250,000	February 5.	109	22·7
Leghorn...........	101,172	February 13.	63	32·4
Munich............	262,000	February 5.	109	21·6
Stuttgart...........	125,510	February 12.	41	17·0
Bremen............	119,000	February 5.	41	17·9
Leipsic............	170,000	February 12.	79	24·2
Pernambuco........	111,000	February 2.	53	24·9
Toronto	120,000	February 19.	38	16·5
Three Rivers.......	10,000	February 19.	6	31·2
Kingston, Canada...	15,109	February 25.	5	17·2
Matamoras.........	12,000	February 12.	7	30·4
Laguayra..........	7,428	February 12.	6	42·0
Cape Haytien......	10,000	February 5.	7	36·5
Curaçoa...........	25,000	February 12.	6	12·4
Port au Prince......	40,000	February 16.	12	15·6
Gibraltar	23,731	February 6.	4	8·7
Cadiz	65,028	February 5.	47	37·5
Mannheim...	65,000	January 29.	27	21·6
Fayal	7,446	January 1.	7	49·0

THE NEW YORK MEDICAL JOURNAL, March 19, 1887.

Original Communications.

LAPAROTOMY AND INTESTINAL SUTURE.

*Exsection of a Portion of the Ileum, with Restoration of Function of the Alimentary Canal by Suture.**

By JOHN A. WYETH, M. D.,

PROFESSOR OF SURGERY IN THE NEW YORK POLYCLINIC; VISITING SURGEON TO MT. SINAI HOSPITAL, ETC.

Leah R.,† Russian, fifty-six years old, housewife, was admitted to Mt. Sinai Hospital on October 9, 1886, with the following history: For ten years she had had a swelling in the left groin, which would disappear when she lay down and return when she was standing erect. She had not worn a truss. Two weeks before admission she discovered that the tumor no longer disappeared upon going to bed, but became painful, tender, and more swollen. She had not vomited up to the time of arriving at the hospital, but there had been no evacuation of the bowels for six days prior to her admission.

On admission, a swelling as large as an ordinary fist was found occupying the inner aspect of the left groin and thigh. The skin over the tumor was red in color, tender and doughy to the touch, and fluctuation was evident. The tissues around were slightly emphysematous. The patient's appetite was gone; she was emaciated, having lain in her present condition ten days in a tenement-house without proper care. The temperature was normal.

A diagnosis of strangulated femoral hernia was made, ether administered, and the tumor incised. Several ounces of foul pus mixed with intestinal matter were discharged. No trace of a hernial sac or of intestine could be discovered, such was the gangrenous condition of the mass. Upon introducing the little finger into the femoral canal, a slight opening into the intestine could be felt. Into this a closed dressing forceps was introduced, and the opening dilated by separating the jaws of this instrument. This was intended to secure the freer exit of ingested matter from the upper portion of the occluded gut.

A loose dressing of iodoform gauze was laid over the wound. The patient improved in condition after this operation, under mild stimulation and liquid diet (milk, beef-tea, beef-juice, whisky, sherry, etc.). Only a small quantity of ingested matter escaped when the gauze dressing was changed on every second or third day.

On October 22d, thirteen days after the first operation, with ether narcosis laparotomy was performed. The patient was placed upon the back with the pelvis elevated upon a firm cushion. With Volkmann's spoon the granulation tissue was first scraped from the walls of the abscess, the hole into the intestine plugged with a pellet of iodoform gauze, the cavity of the abscess irrigated with 1-to-1,000 sublimate, and then tightly packed with iodoform gauze.

The integument about the femoral canal was washed thoroughly with soap and warm water, cleanly shaved, washed with ether, and finally with 1-to-1,000 sublimate solution. Towels wrung out of hot sublimate solution (1-to-3,000) were laid over that portion of the body near the groin, leaving only a spot exposed measuring six by four inches.

An incision four inches in length was made parallel with the outer border of the rectus muscle, the lower end being over the *femoral ring.* All bleeding was arrested, so that before the peritonæum was opened the wound was absolutely dry. Juniperized catgut ligatures were employed. Great care was observed to keep to the inner side of and away from the epigastric vessels which were exposed in the dissection. The parietal layer of the peritonæum was picked up with a fine forceps, opened, and further divided upon the finger as a director.

Upon looking into the abdominal cavity, one or two loops of normal small intestine were seen, and, upon displacing these upward, a third loop was seen to be imprisoned in the femoral opening. That part of this loop above the constriction was slightly distended, while the part on the side nearest the rectum was contracted until it was about two thirds of the diameter of the upper segment. The obstruction of the intestinal canal at the ring was complete. A soft flat sponge taken from a warm Thiersch solution (boric acid, gr. iv; salicylic acid, gr. j; water, ℥j) was placed beneath the imprisoned loop in such a manner that it held the loose loops of small intestine back, and was ready to receive any foreign matter which might escape from the gut when it was divided.

Two long-jawed scissors-forceps (used as clamps) were then placed so as to close the loop of gut which was caught in the ring. One of these rested against the inner surface of the ring, and the other only sufficiently removed from this to permit of a division of the intestine between the forceps.

As soon as this was effected, the loose end, with one pair of forceps attached, was brought out through the abdominal wound and placed in a warm Thiersch towel. As the forceps which constricted the ring of gut attached to the femoral canal was removed, a tuft of sponge was tightly packed into this ring to prevent any infection from the abscess with which it communicated.

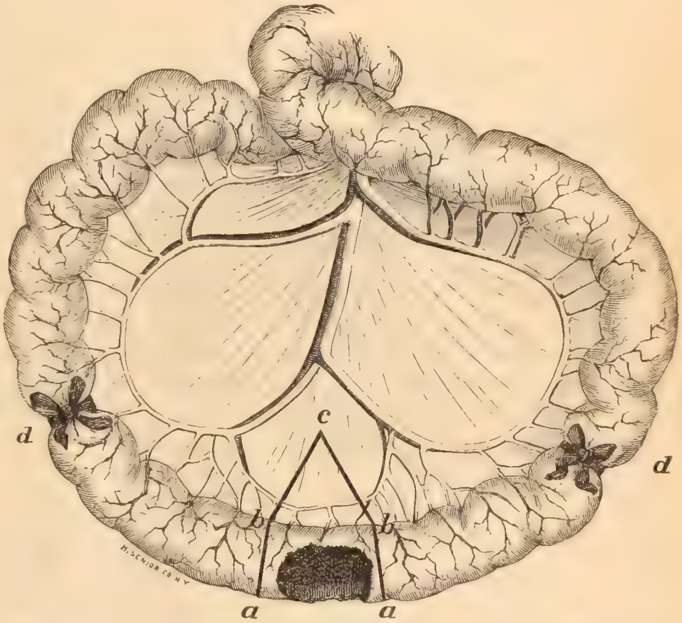


Fig. 1.—Loop of small intestine. *a b*, lines of section through the gut, removing the gangrenous portion; *b c*, same through the mesentery; *a a*, gangrenous portion of ileum; *d d*, occlusion of the afferent and efferent tubes by tape ligatures.

Of the loop which had been liberated, about ten inches (five above and below the point of occlusion) were drawn out of the abdomen, flat Thiersch sponges carefully placed so as to close the wound and prevent any escape of matter into the peritoneal cavity, and the exposed gut protected by covering with warm towels. A piece of cotton tape one fourth of an inch wide was then tied four inches above and below the limits of the gangrenous opening, so as to completely occlude the lumen of the gut (*d d*, Fig. 1). These tapes had been well soaked in a 1-to-3,000 sublimate solution. When the forceps-clamp was removed, the opening into the intestine was seen to occupy two thirds of the circumference of the canal. The gut was then cut across at a right angle to its axis by a single stroke with the straight scissors (*a b*, Fig. 1). These lines of section were well out in sound tissue. The piece of intestine removed measured two inches and a half. A triangular piece of the mesentery was also removed (*b c b*, Fig. 1).

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* Read before the Section in Surgery of the New York Academy of Medicine, March 14, 1887.

† I am indebted to Dr. Rich, of the house-staff of Mt. Sinai Hospital, for the notes of this case.

The bleeding from the mesentery was profuse, requiring a dozen catgut ligatures. From the ends of the intestine only a slight oozing occurred. The cavity of the gut from the tapes to the openings was carefully emptied of all matter and washed out with Thiersch's solution. Nothing escaped from the lower end.

The edges of the divided mesentery were first united by eight interrupted catgut sutures about one fourth of an inch distant from each other. When the intestine was reached, the mesenteric attachment of each end was carefully brought into apposition and the work of stitching the ends of the cylinders to each other begun.

In doing this, three forms of suture were employed: 1. A suture through the mucous membrane alone, or *Czerny's suture.* 2. That through the peritoneal coat alone, or *Lembert's suture.* 3. One which pierces the peritoneal coat and, passing along with the muscular layer, comes out on the free border of the divided gut, the *intermediate suture.**

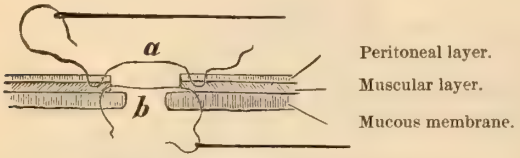

Fig. 2.—Schematic. *a*, Lembert's, and *b*, Czerny's sutures.

In Fig. 2, which represents a longitudinal section through the ends to be approximated, is shown at *b* the Czerny suture as it is passed through the mucous layer of the gut from the inner surface of the canal, while at *a* the method of introducing the Lembert suture through the peritoneal layer is shown.

When a gut is cut across, the longitudinal muscular layer retracts, carrying the peritoneal layer with it and leaving the thick mucous membrane projecting about one eighth of an inch. The object of the Czerny suture is to bring the mucous membrane and the connective tissue upon which it rests together, and thus strengthen the line of union after adhesion occurs. If this is not done, the slight adhesion between the peritoneal surfaces obtained by the Lembert suture might give way under the strain of distension of the intestine by gas or ingested matter. The objection to passing a suture entirely through the wall of the gut and thus approximating all the coats at once is the danger that the perforation may be followed by escape of gas or other contents to either side of the line of adhesion between the ends. The inversion of the mucous membrane by Czerny's suture and of the peritoneal layer by Lembert's suture after the threads are tied is shown in Fig. 3.

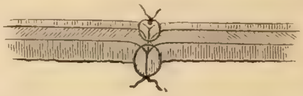

Fig. 3.—Schematic. Showing the inversion of the peritoneal layer by tying Lembert's suture, and of the mucous membrane by Czerny's suture.

The mechanism of the intermediate suture is well shown in Fig. 4. This suture adds strength to the union by taking in the muscular layer and connective tissue of the mucous membrane together with the peritoneal covering. Applied after the Czerny suture, there can be no danger of escape of intestinal contents through the wound.

In suturing the intestine, the very finest black (iron-dyed) silk, and a delicate, perfectly round needle, should be used. The straight needles are preferable to those which are half or full curved. The thread should be made aseptic in sublimate solution (1 to 3,000), and it and the needle taken from a 1-to-20 carbolic-acid solution as they are used.

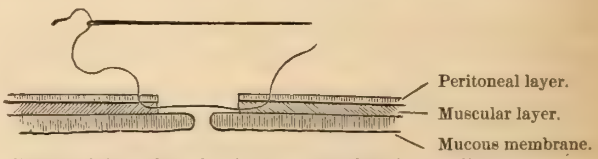

Fig. 4.—Schematic. Showing the route of the intermediate sutures.

In commencing the sutures, first insert one Czerny suture just over the mesenteric or attached border of the intestine, and tie this, the knot, of course, coming within the lumen of the gut. The needle should pass from within through the mucous layer at a distance of about three sixteenths of an inch from the free border (Fig. 2), out along the free border of the same end, and, being carried across to the opposite end, should be made to enter below the muscular and mucous layer, and to emerge through the mucous layer three sixteenths of an inch from its cut edge. A Lembert suture should be next inserted just at the edge of the mesenteric attachment as follows:* The needle is made to

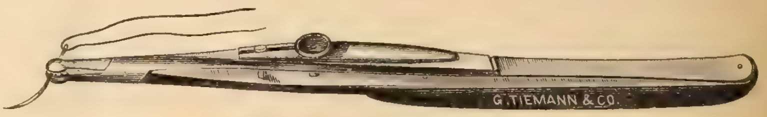

Fig. 5.—Wyeth's needle-holder.

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* Dr. Sutton, of Pittsburgh, employed this suture in a case which ended in a good recovery. I saw the line of union in this patient about two years after the operation, through the courtesy of Professor J. B. Hunter, who was performing a second laparotomy.

* When the peritoneal surfaces of the intestine are held in apposition by this suture, adhesion occurs in remarkably short time. In January, 1887, I was called in consultation in a case of suspected volvulus. Upon opening the abdomen, it was found impossible to untwist the loop without puncture and evacuation of the contents of the greatly distended gut. The opening, one fourth of an inch long, was closed by four Lembert sutures at 11.30 A. M. At 3 P. M. the patient died. On autopsy, not only had well-marked adhesion taken place, but the silk threads were with difficulty recognized, being hidden beneath the inflammatory exudation.

enter the peritoneal coat one eighth of an inch from the edge, and, passing between the serous and mucous coats, is again brought through the peritoneal layer about one twenty-fifth of an inch from the edge (Fig. 2, *a*). At a point exactly opposite, the same stitch is passed through the peritoneal layer of that side for the same distance, and this thread is tied. In knotting all of these sutures it is a wise precaution to use the *double* or *friction* knot for the first tying, for by so doing there is no danger of the suture slipping and the parts separating as the second turn is being made. A second Lembert suture should now be inserted on the other side of the mesenteric attachment, and an *intermediate* suture passed between these, through the substance of the mesentery and down into the strip of intestine which here is uncovered by peritonæum. Extra care must be taken to see that this part of each end of the cylinder is in perfect coaptation. The sutures are now inserted for the remainder of the apposing surfaces. The Lembert and intermediate sutures alternate through the entire circumference, and should be one eighth of an inch apart. The mucous or Czerny sutures should be from one fourth to three eighths of an inch apart. The relative proportion of these sutures is shown in Fig. 6. It is evident that while the Czerny suture is tied leaving the knot within the cavity of the intestine for the first part of the operation, the last few threads must be tied leaving the knot imbedded between the mucous and muscular layers of the wall. In applying the sutures the plan followed was first a Czerny, then a Lembert about over this, next an intermediate, another Lembert, and after this a second Czerny suture, and so on. In other words, it was necessary to insert the mucous suture before the superficial sutures had quite reached that point.

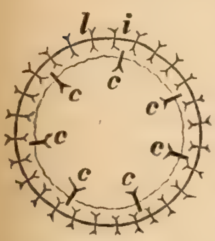

Fig. 6.—Schematic. Section of intestine. Showing the proportion of each form of suture, and their distance apart. *l*, Lembert; *i*, intermediate sutures alternating; *c*, Czerny sutures. (Natural size.)

All of the threads should be cut off close to the knot.

In this operation I had to leave the space between the sutures on the upper end of the gut a little wider than on the lower, for the diameter of the efferent tube was considerably smaller than that of the afferent portion. The intervening space was a flush one eighth of an inch on one side and a scant one eighth of an inch on the other. When the sutures were all in, the constricting tapes were removed. The gut immediately filled with gas. To the surprise of all present, the intestine below the line of suture instantly expanded to a size equal to that of the portion above the line of union. That the wound was tightly closed was demonstrated by forcing the contents of the intestine from opposite directions toward the sutures. No gas escaped.

The appearance after the tapes were removed is shown in Fig. 7. At intervals of about five minutes during the operation a small quantity of warm Thiersch solution was poured over the exposed intestine. The warm Thiersch towels upon which it rested were changed every ten or fifteen minutes. No fluid was allowed to get into the abdominal cavity. Finally the intestine was carefully washed with this solution, and returned into the cavity of the peritonæum.

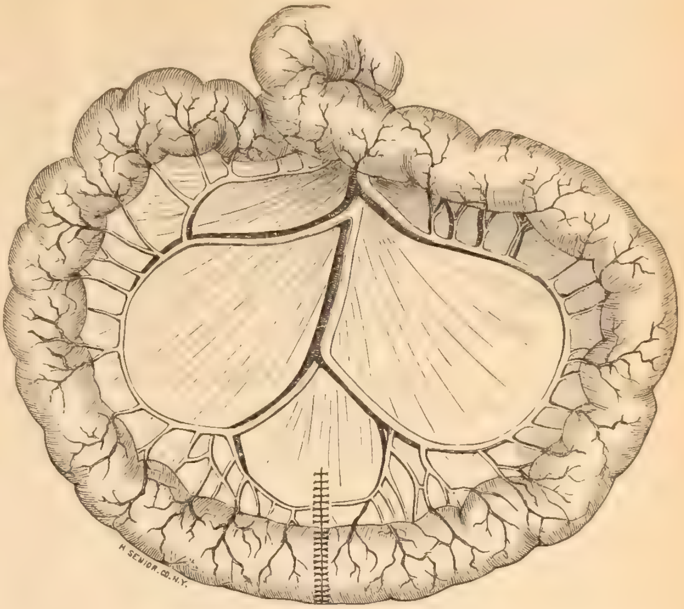

Fig. 7.—Showing the line of sutures in the mesentery and around the intestine.

It was now necessary to deal with the ring of intestine which occupied the femoral opening, and which led from the abscess into the abdominal cavity. Two strong silk threads were passed entirely through the opposing walls of this rim of intestine and tied so as to bring the edges well together. I then passed a silver probe from the hernial abscess cavity up through the femoral canal, and through the ring of adhering intestine between the two silk threads, until the end of the probe projected a half-inch into the cavity of the abdomen. The ends of both threads were tied to the probe, and this withdrawn, bringing the sutures out through the saphenous opening. By making strong and continuous traction on these, the mucous membrane was everted, the peritoneal surfaces brought in contact, and the femoral opening closed. This procedure effected a radical cure of the hernia.

The wound in the parietal layer of peritonæum was closed by catgut sutures, introduced as in the Lembert suture. The abdominal incision was closed with silver sutures, which included all the tissues down to (but not touching) the peritonæum. For the prevention of ventral hernia after laparotomy, it is very important to include the fascia and aponeuroses of the muscles in the silver sutures. A Neuber's bone-drain was inserted. The abscess and sinus were packed with iodoformized gauze.

The operation lasted four hours. The patient rallied well, and was kept quiet with suppositories of opium. She was kept on the back, and was not permitted to move body, legs, or arms for ten days. The diet was milk, beef-tea, and whisky in small quantities.

October 23d, 6 A. M., fourteen hours after operation, temperature 99° F. Patient vomited at 4.30 A. M.

24th.—Pulse 120, temperature 99° to 100°.

25th.—Pulse 100, temperature 99·6°. Patient comfortable. Slept well.

26th.—The pulse and temperature were the same.

27th.—Pulse 80 to 100, temperature 98·4° to 99·6°.

28th.—Pulse 100, temperature 99° to 100°.

29th.—Pulse 100 to 106, temperature 99·2°.

On this the sixth day the silk threads came away under the continuous traction of the elastic ligatures attached to them. The wire sutures were also removed. Wound of incision united throughout. Bowels moved; stool of normal consistence.

30th.—Pulse 94 to 100, temperature 99·2° to 100·2° F. Bowels moved again; stool normal. Opium discontinued.

The subsequent history contains nothing of interest. The patient steadily gained her strength. On November 20th she sat up in bed, and on December 3d was walking about the ward. She is now fully restored and attending to her duties. There is no sign of obstruction or interference with the functions of the alimentary canal, and the hernia is at this date radically cured. The great emaciation of the patient at the time of operation, and the fact that within half an inch of the opening into the abdomen there was a large abscess-cavity, may be mentioned as the two conditions which rendered the prognosis grave.

The treatment of strangulated hernia with gangrene of the intestine may be considered under three methods:

1. Establishing a permanent fæcal fistula at the seat of gangrene.
2. Immediate exsection of the gangrenous portion of the gut, reunion of the ends by suture, and return of the loop.
3. Temporary fistula, followed, after an interval of some days, by laparotomy, excision, and suture.

To the first method may be consigned subjects so feeble that no operative procedure is justifiable.

As to whether exsection should be made at once or postponed after a free discharge through the fistula has been established must be determined by the condition of the individual at the time of operation. If the patient is well nourished, and if the anæsthetic is well borne, it will be advisable to relieve the strangulation, and through the hernial opening draw out the gut until five or six inches of sound intestine above and below the gangrenous spot are in sight, remove the dead portion, and unite the ends at once. This is a much simpler operation than when an additional opening through the abdominal wall is required.

In most cases, however, it will be found that the condition of the patient is not favorable for immediate exsection. Shock is almost always severe, and not infrequently fatal, when the constriction has been so severe or lasted long enough to produce gangrene. In such cases the plan carried out in the case just detailed should be followed.

Finally, the subject of intestinal suture is one of such vast importance that too much stress can not be laid upon the necessity for a thorough preparation for the operation. In the careful application of this procedure to penetrating wounds of the intestines, to exsection of gangrenous portions of the canal as the result of hernia, volvulus, intussusception, and in the removal of malignant neoplasms and strictures, many lives may be saved which, under the teaching of former years, were left to die without surgical interference. The difficulties of the operation are great, and the time required in exsection dangerously long, unless the surgeon has had sufficient practice to enable him to work rapidly and safely. I would advise those who are willing to undertake this procedure to perfect themselves in the various sutures upon the cadaver, or preferably upon living animals. I was deeply impressed with the importance of this in my own case, for, notwithstanding that I had done this operation upon the cadaver about ten times, four hours were occupied in the case which forms the subject of this paper.

In penetrating wounds of the abdominal wall, the argument in favor of operative interference may be briefly stated as follows: 1. The enlargement of a wound sufficiently to demonstrate that it does or does not open into the cavity of the peritonæum is a simple procedure, and practically without danger. 2. A wound of the peritoneal cavity left without surgical interference is always attended with great danger, either from hæmorrhage immediately or from peritonitis at a later period. 3. If the alimentary canal is opened, death is almost inevitable; the few recorded cases of recovery form such an infinitesimal proportion of the whole that they should carry no weight against interference.

A HOSPITAL EXPERIENCE;

OR, FOUR MONTHS' OPERATIVE WORK AT THE NEW YORK HOSPITAL.

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(*Concluded from page 287.*)

In the GENITO-URINARY SUBDIVISION OF OPERATIONS on the trunk there were twenty-four cases. Among these was one of *varicocele*, treated by a method which has been suggested by me elsewhere as suitable for varicoceles of large size—that is, by ablation of the scrotum and subsequent ligation of the veins, which are then exposed and easily accessible, care being taken not to tie the venous plexus accompanying the vas deferens.*

Besides this, two cases of *double hydrocele* were treated by Volkmann's method, as they were considered too large to be cured by the carbolic-acid injection of Lewis, which is still considered the best treatment for a hydrocele of ordinary size, or even for one of large size, if it is first diminished by a preliminary tapping.

Double castration was performed in one instance for tuberculous disease of both epididymes and testes, which had resisted the usual treatment (including scraping with the sharp spoon and subsequent packing with iodoform), and the patient insisted on being relieved of them. Enough of the diseased scrotum was preserved to give the parts a semblance of their original condition. Notwithstanding the fact that pains were taken to excise them as high as possible, it was found that the vas deferens on the left side was filled with cheesy pus. No deposits existed in the prostate, nor were there any renal or pulmonary symptoms.

Amputation of the penis for epithelioma was performed once, in a man aged sixty, the organ being removed close to the scrotum by a single sweep of a long knife, the incision running obliquely so that the corpus spongiosum was left longer than the rest of the structures. The portion of the urethra that remained was divided in a downward direction for a distance of half an inch, and the mucous membrane and skin were sewn together. All bleeding vessels in the corpora cavernosa, and elsewhere, were ligated with catgut, and then the edges of the sheath of the penis were united by several catgut sutures, the skin being also sutured over this. A catheter was introduced into the bladder (as the man had been in the habit of using one on account of his having an enlarged prostate), and the stump of the penis, covered as it was by skin, was inclosed in an iodoform dressing secured by a firm bandage, through which the catheter projected, to end in a glass urinal.

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* On "Varicocele." "Med. Record," March 20, 1886.

Primary union was obtained. This was unusual and was to be attributed to two things: the easy retention of the catheter, and the compression, as well as the final arrest of the usual persistent oozing, by the union of the edges of the fibrous sheath of the penis. A row of glands in the left groin were also extirpated, as advised by Küster, but under the microscope these were found to be enlarged simply from inflammation. Their removal, however, added nothing to the difficulty or risk of the operation, and should in my judgment be undertaken in every case.

Internal urethrotomy for deep and tight urethral strictures was practiced in nine cases, in two of which a single perineal fistula existed. In two other cases, in which multiple perineal fistulæ were associated with a urethral stricture, *external urethrotomy* was performed, and in one instance, where a fistula communicated with the rectum, about one inch and a half from the anus, the perineal wound was purposely extended so as to divide the bridge of rectal tissue, with a satisfactory issue. In all the urethral operations it is the custom to smear the hair of the pubes and perinæum with iodoformized oil (four grains to the ounce of fluid cosmoline), and to inject a small syringeful of the same into the urethra before any instruments are introduced into the canal. All these latter are greased with iodoformized vaseline (a drachm to the ounce), which is less subject to chemical change than the oil. For the division of deep and even tight anterior strictures I rely on Maisonneuve's urethrotome, the blade of which (cutting upward) I have had enlarged to a breadth of eleven millimetres; even with this a cut made in the usual manner will enlarge the canal only enough to admit a No. 26 French sound, but, by twisting the handle of the instrument as it is withdrawn from beyond the already divided stricture, a second incision may be made in the roof of the urethra. By this means enlargement to 32 or 34 of the French scale, and sometimes greater, can be attained. If any considerable anterior obstructions are met with, they are removed by Otis's urethrotome.

After everything has been divided, including the meatus urinarius, the urine is drawn, and the bladder is washed out several times with a 1-to-10,000 bichloride solution, and the urethra is also freely irrigated with the same as the catheter is withdrawn. If any anterior strictures have been divided, the penis is firmly bandaged, and the patient is given two or three times during the first twenty-four hours one eighth of a grain of morphine with from three to five minims of tincture of aconite root. No instrument is passed until four to seven days have elapsed, and not even then if there is any elevation of temperature. In this way urethral fever has been practically abolished, and for this reason this method of procedure has been detailed at length. Before leaving the hospital every patient with stricture is provided with a proper sound and is taught its use.

External urethrotomy was performed in a case of recent *rupture of the urethra*, which was caused by the patient's falling astride of a step-ladder, by cutting into a mass of extravasated blood, in which were found the torn, jagged ends of the membranous urethra. The proximal end of the urethra was more clearly recognized after the prolonged use of a hot-water douche, which stopped the oozing of fresh blood and also washed away the obscuring clots, etc., when the urethra appeared white and sharply defined.

This expedient I had found useful in several other cases in which difficulty had previously been experienced in distinguishing the position of the urethra. The prompt employment of an incision in cases of ruptured urethra is well recognized as one of the decided modern improvements in surgery.

The patient in question did well.

Lateral cystotomy was performed once for the relief of an obdurate cystitis (not of tubercular origin, as shown by frequent microscopical examinations for bacilli), which followed a stricture, and had been unrelieved by an internal urethrotomy which had satisfactorily widened the urethra. This is to be preferred to the median cystotomy, as the drainage of the bladder is more thorough. In the median method, a tube carried into the bladder to continuously drain it is not always well borne, though I have had better luck when the tube has been passed in on the third or fourth day after the first traumatic effects had passed off, than when inserted and left in at the time of the operation. This case is not yet completed, though the improvement is marked; at the end of three weeks a tube was inserted, as the wound was rapidly closing.

One case of *litholapaxy* for a phosphatic stone, weighing one hundred and ninety grains, with a uric-acid nucleus, can be reported in a youth of sixteen. Bigelow's large lithotrite was used. Recovery was rapid.

Of more interest was a case of *suprapubic cystotomy for supposed tumor*, which operation was done in a young man of twenty-four, who had been passing bloody urine for eight months previous, with moderate pain and increased frequency.

There was no enlargement of the prostate nor renal tenderness detected. A searcher in the bladder failed to touch a calculus. No renal elements were found in microscopically examining the urine, nor was any portion of a tumor cast off, though repeated search was made among the many small clots passed. His pain in the bladder on sudden motion became more marked, and he was early in December last placed under ether, and the bladder thoroughly examined by the bimanual method, also by the sound and lithotrite, and also by Bigelow's aspirator. No calculus was found, nor were evidences of a tumor obtained. One mass removed showed a small collection of shapeless epithelial cells, but no stroma. It was decided to explore the bladder by the supra-pubic incision; this was done December 23d, after the rectum had been distended with a bag holding eight ounces of water,* and then the bladder was first filled with six ounces and a half of 1-to-100 carbolic-acid solution but, as no distinct elevation of the bladder above the pubes could be felt, three ounces and a half more were slowly introduced, when the top of the bladder was lifted one inch and a half above the bone. The bladder was reached by the usual incision, and was opened with but little hæmorrhage. The exploring finger did not find any calculus nor any tumor, as was expected. Inspection of the bladder was rendered difficult by the great rigidity of the strongly developed recti muscles, acting as they did more than usual, owing to the difficulty in maintaining perfect anæsthesia. By introducing blunt retractors into the bladder wound, and by raising the heels of the patient over an attendant's shoulders, as suggested by Trendelenburg, I was enabled to secure, with the additional aid of a small portable electric light, a very good view of the bladder. Only an intensely congested and easily bleeding mucous membrane was seen. No attempt was made to sew up the wound, which was packed lightly with sticky iodoform gauze, after a drainage-tube had been inserted; the patient was turned on alternate sides for three days, when the tube was also removed. No reaction followed the operation, but bloody urine continued to be passed, and two weeks later, the wound still admitting a finger, the patient was again etherized with the idea of isolating the mouths of the ureters, and thus ascertaining whether the hæmorrhage came from the kidneys or not. This was soon proved to be a difficult affair; the use of various endoscopic tubes and mirrors, and even a long but narrow glass speculum, was inefficacious in furnishing the desired view, and the insertion of, and dilatation by, Peterson's rectal bag with seven ounces and a half of water, while it brought the base of the bladder one inch nearer the surface and closer to the pubes, did not serve to permit the recognition of the orifices of the ureters. The hindrance was, as before, mainly due to the difficulty of overcoming by ether the strong resistance of the well-developed recti muscles. It was, however, seen that the lower part of the bladder was studded over with a number of elevations the size of hemp-seed, which bled freely when rubbed by an instrument. Three weeks later the supra-pubic opening closed, and the patient's urine is becoming less bloody, but the diagnosis of the case can hardly be considered as made. He still remains under observation.

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* See remarks on this point in "Medical News," December 4, 1886.

On the *kidney* a series of important operations have been resorted to. The first case of the number to which your attention is asked is one of

Laceration of the kidney, with perinephritic abscess and renal fistulæ, which occurred in a youth of twenty, who, three years before coming under my care, had fallen a distance of six or eight feet, and struck his right side heavily on an iron bar. He had following this severe hæmaturia for three weeks, when fever, local pain, swelling, etc., showed that suppuration was progressing in the right lumbar region. An incision was then made by my colleague, Dr. W. T. Bull, and a large amount of pus was evacuated. A sinus persisted for a long time, which healed at times, but would break out again and freely discharge matter. Since July last he has been unable to get about by reason of the pain in the flank and also in the rectum. In the left iliac fossa was found much inflammatory hardness and tenderness, running upward to a large fistulous opening between the middle of the iliac crest and the ribs. Through the opening a probe could be passed nine inches downward to the iliac fossa. Above the opening, nearer the spine, was another, through which a probe entered four inches toward the kidney. From four to six ounces of pus were daily discharged. The patient was pale, but in fair condition, and was anxious to have relief from the persistent suppuration. By the rectum nothing could be felt. The urine was slightly albuminous, but otherwise the examination was a negative one, with the exception of a few pus-cells. The amount discharged per diem was between fifty and sixty ounces. No urinary salts were found in the pus discharged from the fistulæ. A curved incision, starting from the upper fistula and running through the lower one, and anterior to it (somewhat like the one advised by Koenig), was used to expose the parts; but the tissues were so matted together by old inflammatory action as to yield but little room for manipulation. Instead of finding myself (as the way was finally enlarged by stretching and cutting) in the expected cavity of a suppurating kidney or thickened perinephritic abscess, I came down upon a thin-walled cavity, larger than my fist, through which could be easily felt the movements of the abdominal viscera beyond. Moderate bleeding occurred from the cavity, and it was temporarily stopped with sponges, while the fistulous tract in the groin was opened at its terminus, just above Poupart's ligament. A second tract was then found, running from the first downward to the pelvis, but too far back to be tapped. A drainage-tube was placed in each of these tracts, the sponges were removed, and the cavity was inspected with the aid of the electric lamp. This disclosed to me that a rent three inches long had been made through the membrane, so that the liver and gall-bladder were plainly exposed. This probably would not have been detected had it not been for the lamp. It was sewed up by catgut sutures. Careful examination by myself and my colleagues failed to find any remains of the kidney, which I also sought for through the peritoneal opening before it was closed. The exposed cavity was packed partly with iodoform gauze, but mainly with sublimate gauze, and the usual peat-bag and other antiseptic dressings were placed over all. Death took place four days later, with marked rise of temperature about forty-eight hours after the operation, followed by persistent vomiting and almost total suppression of urine. At the autopsy there were no signs of peritonitis; the left kidney was in a condition of acute suppurative interstitial nephritis, and on its surface, underneath its capsule, pus was diffusely distributed. At the upper border of the tenth rib on the right side, surrounded by dense connective tissue, was seen the upper third of the right kidney, its lower two thirds having been destroyed. This kidney-stump formed the upper limit of the abscess-cavity, which had been opened at the operation. In it were found two sponges which had been left *in situ*, one of which was firmly adherent. It should be stated that on the day of his death, the date of the last dressing, the wound was in an odorless condition. This cavity was bounded internally by the duodenum and spine, anteriorly by the ascending colon and hepatic flexure, and below it communicated by a tortuous sinus with a pus-cavity in the true pelvis, behind and alongside of the bladder and rectum, and it extended also through the right sacro-sciatic notch, and terminated exterior to this in a cavity the size of a hen's egg.

The second case of renal surgery was one of huge suppurating kidney, for which *nephrotomy* was done.

The patient, a man aged thirty-seven, had, strangely enough, had symptoms of trouble in his side for only four weeks, and these were of moderate severity, but were associated with great weakness and rapid emaciation, but no chills nor any special urinary manifestations. In the right flank was a painful tumor the size of a cocoa-nut, half way to the ilium, with a deep sense of fluctuation, which the corroborative use of a hypodermic needle proved to be from retained pus. An incision was made (under the idea that the swelling was more probably a perinephritic abscess) from the distal end of the twelfth rib downward, and, instead of reaching evidences of inflammatory thickening as the cut was deepened, only the translucent peritonæum came into view, through which was seen the tumor moving perceptibly up and down under the action of the diaphragm. An incision at right angles to the first, and running toward the spine up to the quadratus muscle, soon exposed the tumor more safely in another place, when its purplish color proved it to be a hugely distended kidney. On opening this with a scalpel, over eight ounces of fœtid yellow pus were discharged, and the finger, in exploring, could feel sundry depressions corresponding to cavities in the cortical portion of the kidney. It was not washed out, but two large rubber drainage-tubes were inserted, and the wound was dressed antiseptically. Though the discharge at first was very free, and required frequent changes of the dressing, it has of late rapidly diminished, and the patient's condition has correspondingly improved, though at times a strong urinous odor is perceived in the discharge. The cavity was washed out afterward with Thiersch's boro salicylate solution, as being safer than a carbolic or sublimate solution.

The case, however, that excited the most interest in the whole of the present operative group, from its nature, treatment, and result, has been one of *abdominal nephrectomy* for a huge *adenoma*, a disease which has necessitated removal of the kidney in only one (Czerny) of Gross's collection of forty-nine cases of nephrectomy for neoplasms. Another has since been published by Albert. In Czerny's[*] case the right kidney was involved in a child eleven months old. Death took place from peritonitis on the second day. In Albert's[†] the patient was a woman of forty-one, who, two years before, had had a fall, followed by frequent hæmaturia. Pawlik catheterized the ureters, and made the differential diagnosis. The tumor, as large as a child's head, was extirpated by a posterior incision, and the patient recovered. A third successful case is also reported by Schönborn[‡] in a child aged two years.

My own case has the following history:

A burly man, aged thirty-five, a butcher, was suddenly seized, two years since, with cutting pain in the left lumbar region, and at that time passed a quantity of bloody urine; this was probably an attack of renal calculus, for other paroxysms came on with not very long intervals, and he frequently noticed that gravel was passed, and indeed he showed me some fifteen or twenty calculi, principally phosphatic in character, when he was first brought to me by his physician, Dr. Maynard, of this city. In the past year, however, these intermittent attacks have culminated in a persistent pain in the left lumbar region, which is aggravated by sudden motion—by riding, etc.; jolting will, moreover, bring on or increase his hæmaturia. He has lost flesh in the last six months, and he has become blanched from suffering and loss of blood. In the left flank is to be felt a tumor, running from three inches external to and on a level with the umbilicus, upward and backward under the ribs. This is slightly movable on bimanual examination; the mass seems to be nearly seven inches thick. The amount of urine passed varied from thirty-five to sixty ounces *per diem*, and, on examination, showed nothing beyond what might be due to the blood mixed in it. Under the idea that the kidney enlargement might be due to retained calculi, an exploratory vertical incision, as for *nephrotomy*, was made in the left loin December 11, 1886, and the kidney, covered only by a thin layer of its fat-capsule, was exposed by tearing through this. No calculus could be felt, though the posterior surface was pretty thoroughly palpated, and the anterior surface only to a limited degree. A puncture with a needle was made in several places, but did not discover any calculus nor any cavity. The bleeding from the punctures was free, but was soon checked. The examination also showed that the kidney was too much enlarged to be removed by the usual lumbar incision.

It was determined to do nothing further for him at this time, but when the lumbar wound should have healed it was decided that the tumor (for the diagnosis made was that of probable sarcoma) should be extirpated by abdominal section. And in the meanwhile, as a corroborative diagnostic means, the quantity of the urea daily passed was estimated a number of times, as had been suggested by Thiriar, who had noticed that in malignant growths this secretion was materially lessened. It was found in the patient's case to have fallen to between 219 and 240 grains *per diem*. On the twentieth day of January, 1887, the patient was again etherized, and by an incision five inches and a half long, to the outer side of the left rectus muscle, and starting from the free edge of the ribs, the abdomen was opened, and, after palpating the other kidney, the intestines were pushed aside with large, flat sponges, the peritonæum covering the tumor was incised to the inner side of the descending colon, and the affected kidney was exposed. A few minutes' dissection with the finger allowed the root of the kidney to be reached, when this was easily surrounded with a heavy silk ligature, by means of Mott's aneurysm needle, and the vessels and ureter were tied off *en masse*. A heavy clamp was then applied between the ligature and the kidney, and the latter was cut away, and, after some tedious tearing of cicatricial adhesions on its posterior surface resulting from the first incision, it was finally removed. The clamp was found to have slipped, and to have allowed a vein, which had entered the kidney above the ligature, to bleed freely. This showed most happily the control the anterior incision gives in this respect. The bleeding vessel was distinctly seen, and was in a moment controlled by a fresh clamp and ligated. Very little blood was lost, though during the stripping process, which was conducted between the capsule and its fibro-adipose envelope, for a short time quite a smart oozing of venous blood took place. A long dressing-forceps was then forced from in front through the old cicatrized track to the loin, and a large-sized rubber drain was carried in from this point to the cavity left after the extraction of the kidney. The divided and torn edges of the peritonæum which had covered the kidney were united by numerous Lembert sutures, thus inverting the edges, and, after a final toilette of the peritoneal cavity (but only so in name, as nothing had entered it, it having been so thoroughly protected by the sponges), the parietal peritonæum was sewn together with catgut and the abdominal wall was closed by silver-wire sutures, supplemented by additional ones of catgut. As some oozing of blood persisted from the drainage-tube, several yards of sublimate and iodoform bandage were stuffed into the posterior cavity, and over all peat-bags and other antiseptic dressing were applied. The patient's progress was extremely satisfactory; there were no peritoneal symptoms, and only a persistent gulping for seventy-two hours. No attempt was made to introduce food into the stomach, and for a week nourishment was administered by the rectum. The highest temperature by the mouth was 101·7°. The urine for the first twenty-four hours amounted to but eight ounces, and it was very bloody, due probably to the operation on the removed kidney. In the second twenty-four hours it was twenty ounces and was of a dark amber-color, with only traces of blood in it; urea 1·01 per cent., specific gravity 1·020. On the third day it amounted to forty-nine ounces, and on the fourth to eighty-eight ounces, after which it gradually subsided, and about fifty ounces are now passed, but the urea still keeps lower than normal, but there is more than before the operation.

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[*] "Deutsche med. Wochenschrift," 1882, No. 32.

[†] Brodeur, "De l'intervention chirurgicale dans les affections du rein," 1886, p. 222. Also "Wiener med. Presse," 1885, No. 9.

[‡] De Jong, "Beiträge zur Nieren-Extirpation," Heidelberg, 1885. Also "Centralblatt f. Chir.," 1885, S. 24, Beilage.

On the sixth day the dressings were changed, and the wire sutures were removed from the anterior wound, which had healed primarily, and from the posterior opening the gauze was pulled out, everything being sweet and aseptic. To-day (February 8th) the patient is sitting up out of bed, is eating heartily, and is on the road to health.

An episode occurred at the termination of the operation that excited some anxiety. On telling the nurse to count her sponges at the close of the operation, she reported that there were two flat ones missing, there being seven instead of the nine original ones; on a second count the same result was had, and this original number was corroborated by the superintendent of the training-school, who was present. The wound, which was then partially closed, was opened, the hand was introduced, and the abdominal cavity was explored, and Dr. Bull, who was assisting me, was requested to verify the search. No sponges were found in these examinations, and the closure of the wound was proceeded with. The means for caring for the soiled towels, etc., and for washing the sponges, seemed to be so exact, and there seemed to be so little possibility of the missing sponges being lost anywhere else than in the patient's belly, that I felt much concern during the first three or four days on this point, being prepared, on the first symptom of peritonitis fairly manifesting itself, to reopen the abdominal cavity and resume the search. This feeling was present because, though an examination was found to be negative when made by two surgeons, yet I was conscious of the difficulty of absolutely excluding their presence, as I could not be certain of such regions as beyond the lesser omentum and behind the liver. Events proved, however, that the sponges went elsewhere, although the possibility of the organization of aseptic sponges may be insisted upon by some.

The kidney, when removed (the specimen is here shown), weighed twenty-one ounces and measured nine inches by five and a half. Its shape was rendered irregular by several projections from its surface, which were more marked on its posterior aspect. While the kidney itself is much enlarged, there can be seen after section that its substance has been invaded by a neoplasm of the size of a fist, encroaching upon, but not bursting by ulceration into, the pelvis. The mucous membrane of the latter is thickened, and up to the point where it was severed from the ureter, numerous miliary granules are found beneath it. Uninvolved kidney-tissue was found between the ligature and the tumor. On examination by the microscope, made by Dr. Peabody, the pathologist, the tumor "seemed to be nowhere continuous with the kidney tissue, but to be separated from it by a well-defined capsule. In the more recently developed portions of the tumor an indistinct stroma of connective tissue may be made out, inclosing alveoli that are lined with cuboidal cells. The stroma itself is very rich in young cells, and its vessels are large and thin-walled. Older parts of the tumor show very delicate fibrous stroma, and also contain many round and spindle cells inclosing alveoli, some of which are large enough to be seen with the naked eye, while others are of microscopic size. The alveoli are lined regularly with flat epithelium, and occasionally contain colloid material. They are nowhere filled with cells. From the sides of many of these alveolar walls buds of connective tissue covered with epithelium project into the alveoli, and there either terminate freely or effect a union with similar buds projecting from an opposite wall. Not many vessels are seen in the fully developed parts of the tumor. In sections from different parts of the kidney, not actually invaded by the lumen, the effects of prolonged pressure are seen; also small, round cells occur abundantly in sharply defined aggregations of various sizes, evenly distributed throughout the kidney-tissue. Diagnosis: adenoma."

To be added to this eminently satisfactory case is another of *laparotomy for perforation of the appendix vermiformis*, done on probably the fourth day after the fæcal extravasation, with a fatal result, and already reported to the society.* A third case of *laparotomy*, in a married woman of thirty-five, is also to be reported. It was performed for the arrest of severe hæmorrhage due to *a uterine fibroid* reaching nearly to the umbilicus. The uterine appendages (normal tubes and ovaries) on each side were tied off and removed, and the operation was completed smoothly and quickly, and under all antiseptic precaution. Peritonitis, however, carried off the patient on the fourth day.

A fourth case of *laparotomy* has much more interest, as it was performed upon a married woman of forty who had had a centrally situated abdominal tumor for several years, which she had been told by a distinguished gynæcologist was a fibroid, who added that she should never let any surgeon touch her.

Five days prior to entering the hospital she had been seized with severe abdominal pain, with fever and slight vomiting; when seen there was dullness running up from the pubes to the umbilicus, which rounded out, apparently a fibroid; *per vaginam* the lower part of the uterus could be mapped out, but the upper part could not. It was thought unwise to introduce the uterine probe. Pulse, 120; temperature, 102°; and belly moderately tympanitic, except over the tumor and toward the right iliac fossa, where, however, no fullness could be felt. A fine exploring needle was passed in by the house physician, Dr. Vought, and a small quantity of sero-pus was drawn out. The patient was accordingly transferred to the surgical division for operation, as it was supposed to be suppurative peritonitis with a large uterine fibroid. The patient, however, adhered to the injunction given her, and refused to have any surgical interference until twenty-four hours later, during which time her pulse rose to 140 and her temperature to 104°, and her general condition was much deteriorated. After the antiseptic washings had been done, a median section, running from the umbilicus to the pubes, showed that a suppurating cyst, rising nearly to the transverse colon, of the size of a muskmelon, containing horribly fœtid gas and pus, existed, the origin of which could not be made out, it being lost in the uterus, nor could both of the ovaries be located. Whether there was a suppurating ovarian cyst or a fibro-cyst of the uterus could not be distinguished. The treatment was clear—*i. e.*, to fasten it to the lower angle of the wound, after drawing out as much as could readily emerge, and to close up the remainder of the abdominal wound. This was done, securing the sac not only with sutures to the peritoneally lined abdominal wound, but also with two transverse pins, and then the sac, which had only been previously tapped to empty it of its gas, in order to allow easier handling, and then had been tied up again, was freely opened with the patient on her side, and was thoroughly washed out with 1-to-40 carbolic solution, and drained by a large glass tube carried through a mass of iodoform gauze. By washing out the sac-cavity with 1-to-100 carbolic solution every three hours, the patient went along smoothly, with falling temperature and pulse, until the fifth day, when from a normal temperature it quickly rose to 103°. This was thought to be due to a mural abscess on each side of the wound, which was freely opened, cleaned out, and packed with iodoform gauze. The edges of the sac seemed to be adherent, but had sunk, after removal of the pins on the third day, quite deep in the wound. Some foul-smelling gas came out during this washing out of the suppurating cavity, and the next morning the vagina was found filled with fæces. The patient rapidly succumbed forty-eight hours later, with signs of general peritonitis. The autopsy showed that the operative diagnosis was wrong. The cyst was Fallopian, and communicated by old openings with the rectum and bladder. The drawing up of the sac into the wound apparently made these openings more direct and patent. Peritoneal infection was probably late, for at the operation none was recognized. The size of this pyosalpinx was much beyond my previous knowledge.

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* "Medical News," January 15, 1887.

The Surgery of the Extremities comprises thirty-two operations. Among these, eleven were for necrosis, five of the femur, two of the tibia, one of the fibula (external malleolus), one of the os calcis, one of a beautiful central necrosis (accidentally omitted in the foregoing pages) of the sacro-iliac synchondrosis, where a large mass of separate dead bone was taken away by extensive chiseling. There was one of the lower end of the humerus, involving the *elbow*, which was *resected*, resulting in good motion. One case of *resection of the entire tibia* was made in a boy of thirteen, who had suppuration progressing in the leg for over six weeks, and in whom the tibia had been largely exposed by incisions made for his relief in another hospital.

On his admission to the New York Hospital the knee joint was found to be involved, and, as an amputation was declined, the joint was opened and drained and the tibia found to be loosened in its sheath, so that but little chiseling and cutting sufficed to remove it from one epiphysis to another. The ankle joint was also involved in the suppuration. The patient's weak condition did not bear the shock of this operation, more severe, however, in appearance than in reality. The sawn bone showed several separate purulent depots and extensive infiltration of acute inflammatory processes.

I venture, notwithstanding the length that my paper has assumed, to make a remark concerning the subject of *necrosis of the lower end of the femur.* I have made myself, and have seen others make, an error in treating this affection, that I think I have now learned to avoid. The point is, when much thickening exists at the lower end of the femur, not to be content with the removal of the piece of exposed dead bone that may be seized and extracted, but to boldly chisel into the thickened end of the bone, even though no opening is found running into it. In very many instances further trouble may be found existing, either in the shape of minute spiculated necrosed pieces, as was shown by Dr. Lange at our last meeting, or of larger pieces surrounded by a spongy suppurating involucrum, or even central spongy necrosis, with or without bone abscess, running dangerously near the joint-line. All of these I have found when least expected. I feel warranted, therefore, in urging this point. In five cases where extensive openings had been made into bone, recourse was had to the suggestion made public by Schede in 1885, and also, in 1884, by Dr. R. T. Morris, of this city, but originated several years earlier by Neuber, of allowing the cavity to fill up with blood, in order that this may organize under the antiseptic dressings applied. Either the wound of the soft parts must be closed with the exception of a small slit, or it must be left entirely open and covered with a layer of gutta-percha tissue, with a hole in it; this is intended to allow the surplus to flow out, and also to prevent the dry bandage from entirely soaking up the clot. In three out of my five cases (which can be increased to five out of seven, counting two private cases) success was obtained in the prompt organization of the clot and the rapid healing of this wound, which under the old plan of packing heals but slowly from the bottom.

A peculiar painful *enlargement of the internal condyle of the left femur*, with old joint disease, was found in a young man upon which an osteotomy was done with a gouge and chisel, in the expectation of finding a bone abscess; but, though the mass was cut into to a depth of three inches (it being larger than a big apple), nothing abnormal was seen, nor did the microscope show any change in the osseous structure. Nevertheless, the pain ceased and the patient was cured.

Arthrotomy for the removal of a floating sarcoma of the knee was performed in one instance; the case, together with the result of the microscopical examination, was reported to the society at a previous meeting.

A recurring sarcoma of the groin, the size of a large orange, encountered in a middle-aged man, was removed, the common femoral artery and vein being exposed, but not disturbed by the dissection.

Antiseptic irrigation of the knee joint with 1-to-20 carbolic solution, for chronic hydrarthrosis of the knee, can be reported as successfully treated. Likewise a quite extensive *chronic tendo-synovitis of the peroneal tendons* was treated by making an opening above and below, and establishing drainage without a very satisfactory outcome, the reason being microscopically shown to be (as Koenig has taught us) owing to tubercular infection of the sheath. It will require opening throughout its whole extent, and thorough dissection, scraping, and cleaning, with subsequent iodoform packing, in order to effect a cure.

Beside the elbow-joint resection, practiced for necrosis involving the articulation, and already noticed, there was one *resection of the shoulder joint* in a young adult by Ollier's anterior incision, which was an unwise selection of an operative method, as it allowed only a very imperfect cleaning out from the joint of the tuberculous synovial membrane. Even the more usual cut across the deltoid would have hardly permitted this to be done satisfactorily. As the patient had then slight (and now more advanced) signs of phthisis pulmonalis, amputation at the shoulder joint will soon be demanded for his relief.

A *resection of the wrist joint* after Lister's method was done for early tuberculous arthritis. In this instance more than usual trouble resulted from the hæmorrhage so often induced by the use of Esmarch's rubber bandage. The case promises well, though the long pressure to control the bleeding caused a slight cellulitis of the forearm. I have since in one instance put into use, with gratifying effect, the suggestion made at this society by Dr. Lange, that, when producing rubber anæmia, one should control the rush of blood into the limb after the removal of the constricting band by the pressure of an assistant's finger on the main artery above the wound, so that the full blood-supply is only gradually admitted to the limb, and in this way contraction of the temporarily paralyzed vessels is permitted.

Resection of the astragalo-scaphoid articulation was performed four times in two patients *for aggravated flat-foot.* In three of these operations adherence to Ogston's original plan was followed of shaving off, after opening the joint, the articular cartilages with a chisel, and then fastening the bones together by ivory pegs driven through the scaphoid bone into the astragalus. In the remaining operation a little more than the articular cartilage was taken away, and the use of pins was omitted, according to Stokes's method. The rectified position was maintained easily by a plaster bandage without the support of pegs. The result in the first case, now over four months old, is excellent; the last case is too recent to be quoted. I did this for the first time in 1885 in one foot, following, without intending it, Stokes's method—that is to say, removing more than I started to do—and in the second foot I conducted the operation more strictly after Ogston's directions. Only I found that my ivory pegs had been soaked all night in sublimate solution, which rendered them so friable that I could not use them, and so I drove in two gilt nails which had been cleaned by scrubbing and immersion in carbolic solution, but were stained by a previous employment in a compound fracture. Whether it was from this or from some other cause, the foot went sadly wrong, the other, without a peg, progressing happily. Severe tarsal inflammation ensued, and the young man only got off with a total resection of the scaphoid and astragalus and parts of the cuboid and os calcis, leaving him, however, in the end a serviceable foot, but prolonging his convalescence for months.

Amputation of the leg was done for recurring cancer of the heel by Stephen Smith's method, and gave a beautiful stump. The patient at first declined amputation, and consented only to my doing the Wladimirow-Miculicz operation. She acted wisely, I think, in coming to the decision she finally did, for she was past fifty-five, and the chances of the more complicated operation would have been thereby lessened, and a relapse would have been more likely to occur.

The rather rare operation of *amputation at the hip joint* was performed by the long anterior and short posterior flap, in a man aged forty-six, for huge recurring sarcoma of the soft parts of the left thigh. Besides a large mass reaching nearly to the trochanter on the side and behind, there were several small growths lower down on the face of the thigh. The original removal had been done three years ago by the late Dr. Post, of this city. Recurrence took place within six months after this operation. The main tumor is now some ten inches in diameter. The hæmorrhage at the hip-amputation was admirably controlled by Lloyd's method, which is to fasten a doubled rubber bandage tightly around the hip, so that it rests on the inner side of the tuberosity of the ischium, its ends being secured above the ilium at about its middle. Pads are placed under the compressing band, over the lower end of the external iliac artery, and over the sciatic notch. It appears to be the best and least hazardous of the many methods advised to control the blood-supply in this high amputation. Next to it I should place Davy's rectal rod. Not more than two or three ounces of blood were lost in this case.

The patient did well without any temperature-elevation for forty-eight hours, when signs of gastritis and tympanites came on, without diarrhœa, and he died, four days after the operation; at the autopsy the stump was found to be progressing satisfactorily. A large aortic aneurysm was found, and the stomach was studded with patches varying in size from a silver quarter to a silver dollar, in which the mucous membrane was blackened and destroyed; their edges were sharply defined and they were of embolic origin, and were supposed to have originated from the aneurysm. The intestines were distended and much congested in defined areas.

My own impression is, that the toxic effect of the bichloride can probably be blamed. At least I am conscious that I committed an error, which I had in other instances sedulously kept in view. After the stump had been finally closed, to make certain that the two drainage-tubes were free from coagula, I allowed a 1-to-5,000 sublimate solution to flow in through one tube, distend the stump, and to flow out through the other tube, when the dressings (also of sublimate and quite freshly made, *i. e.*, damp) were applied in large quantity. I speak of this injection of a closed wound as faulty, since I can attribute the production of carbolic-acid poisoning to a similar method several years since. The gastric appearances somewhat resembled those shown in the case of the death after the operation for removal of the uterine appendages, although there frank peritonitis existed. In this case, to cleanse the vagina after the use of a tampon, a rather strong sublimate solution was directed by the house surgeon. It is well known that absorption of this drug goes on with special aptitude in the genital passages of the female.

I must here confess that, in spite of the many advantages of corrosive sublimate as an antiseptic, more mishaps have occurred to me in using it than were met with in the days of carbolic acid, and that with iodoform, since I have learned to use it discreetly, no harm has come at all beyond an occasional local irritation.

The few remarks that need to be made concerning the *antiseptic methods* usually employed in operations at the New York Hospital can appropriately be set forth here.

All fresh wounds are irrigated lightly with 1-to-5,000 or 1-to-10,000 sublimate solution. Catgut, either sublimated or Kocher's, is used. Iodoform, when used, is either dusted on the line of union of a wound, or on the sublimate gauze or peat-bag, which is first placed over the wound. No iodoform gauze (made by rubbing iodoform into a sticky gauze of any kind) is employed except to stuff cavities. Where primary union is sought, it will, if used, often shut up the secretions and provoke trouble. Where special promptness of union is desired, I much like to place over the wound a layer of sublimated, matted spun-glass, a device of Kümmel's. Over the antiseptic gauze is laid a heavy layer of absorbent cotton, and pressure is made with gauze and Canton-flannel bandages. Drainage-tubes are of rubber and are kept in sublimate solutions; they are dipped in iodoform dissolved in ether just before being inserted into a wound. They are removed as early as possible, from the second to the fifth day.

As to the surgeon himself and his assistants, thorough scouring of the hands with soft soap and subsequent immersion in a 1-to-1,000 sublimate solution or a 1-to-20 carbolic-acid solution is resorted to.

The instruments are scrubbed and boiled, and are then put into carbolic solution. Sponges are washed in soft soap, and are kept in strong sublimate solution (1 to 2,000); all those which have been soiled with bad pus or discharges are at once destroyed.

To return and complete in a few words the list of operations that have taken so long to detail, I beg to speak of two cases of popliteal aneurysm treated by *ligature of the femoral artery*, with primary healing of the wound in each instance, but with a slight phlebitis in the leg in one case, and an enormous femoral abscess in the second, from suppuration of the sac due to the patient's leaving the house one month after the operation. I had in the first case reverted to ligature after successfully managing seven cases of aneurysm of the lower limbs by Esmarch's bandage, with one failure. The later successes by the ligature and its greater certainty, and increasing trust in antiseptic measures, led me to change my views from the bloodless to the cutting operation. It is too slight an experience from which to arrive at conviction, but it carries home, like my unfortunate Ogston's operation, the feeling, as Dr. Hunt, of Philadelphia, banteringly says, that "antiseptic surgery is *not* cock-sure surgery."

One case of *ununited fracture of the femur*, where the treatment of rubbing the ends together till pain was produced, and then putting the man up in plaster and getting him about on crutches, bearing light weight on the limb, had failed, was *bored by* Brainerd's drills.

A case of a nine-weeks-old *dislocation of the femur into the thyroid foramen* came under my notice in October in a woman weighing over two hundred and fifty pounds. In making efforts to reduce the dislocation under ether, the neck of the femur gave way and allowed ready restoration of the limb to a position parallel to its fellow. I had accidentally done what I proposed to do more exactly with a chisel, had I failed to reduce the dislocation. When the patient left the hospital, the case gave promise of a very satisfactory result.

By mentioning, in closing the list, one case of the very small operation of Cotting's for an *ingrowing toe-nail*, it is hoped that the artistic diminuendo will be appreciated. Minor operations have purposely been omitted, save in one or two instances, where their introduction would justify a remark. This operation of Cotting's often fails, and I have learned from my clinical assistant, Dr. Hartley, how to do it better than I formerly did. I now cut off much more of the swollen flesh alongside the nail, plunging the knife downward, and sometimes inclining it toward the center of the toe, so that a generous lump can be taken away; the incision should run well back beyond the matrix. An iodoform dressing is applied, and over this cotton and a snug bandage, and with this the patient can keep on walking, with the toe exposed in the shoe. In a week, usually, the dressing is changed. Lastly, of the three hundred and ninety-nine patients treated, there were seven deaths (or 1·75 per cent. mortality), and in each of these an operation had been done. In five of the seven, death occurred soon after the operation; in two other cases death resulted some time later, as in the case of the patient with tumor of the brain, who lived two and a half months after the operation, and the patient with hernia, who died, three weeks after the operation, from pneumonia and Bright's disease. In the one hundred and five operated on, the mortality was 6·66 per cent.

FOUR CASES IN PRACTICE.

By ROBERT T. MORRIS, M. D.

Hydrocephalus responding to Surgical Treatment.—Gall-Stones in the Peritoneal Cavity.[*]*—Two Cases of Recovery from Traumatic Paralysis.*

Case I.—Rosie L. was ten months old when I first saw her, on June 15, 1885, in consultation with Dr. Onofrio Abruzzo, of this city. She was born a strong child of healthy parents, and all went well with the baby until she was six months old. One day the parents noticed a peculiar facial appearance, and shortly afterward saw that her eyes were squinting and rolling, and that her muscles contracted spasmodically. The first attack lasted only a few minutes, but the convulsions came on three or four times daily after that, and became more and more severe. In a few days the mother found that the child's head was increasing rapidly in size, and that it felt hot to the touch. Gradually the limbs became paralyzed. The child would no longer cry or smile, and her eyes began to protrude from their sockets and to remain rolled upward. The child continued to nurse, and she remained in very fair physical condition—a condition undoubtedly due to the medical attention which Dr. Abruzzo had given the case.

The disease had lasted for four months when I first saw the case. At that time the greatly enlarged head (forty-nine centimetres in circumference about the forehead and occiput, and fifty-eight centimetres in circumference about the chin and occiput) was further deformed by a marked protuberance of the right parietal bone. This protuberance had previously been much greater, until Dr. Abruzzo partially restored the symmetry of the head by means of a rubber bandage. The anterior and posterior fontanelles were very large, and the parietal bones were widely separated from each other and from the frontal and occipital bones. Percussion at any one point on the tense scalp sent a wave of transmitted force to the opposite side of the head, and, as the ventricles of the brain were presumably not distended with fluid, the hydrocephalus being post-congenital, I thought the case a proper one for surgical interference.

With the aspirator and a small needle I withdrew two ounces and a half of a beautifully limpid, non-albuminous fluid from the left side of the anterior fontanelle. The child improved almost immediately, smiled when spoken to, and moved the legs a little. This improvement remained, and a week later I drew off three ounces and a half of fluid, with the effect of bettering the child's condition still more. She began to move all her limbs, and the eyes lost the fixed stare. On the following week I drew off a few drachms of fluid from the left side of the cranial cavity, and injected half a drachm of Morton's fluid (iodine, gr. x; iodide of potassium, gr. xxx; glycerin, f℥j). At the end of the fourth week I again drew off a few drachms of fluid from the left side, and injected half a drachm of Morton's fluid.

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[*] Read before the Section in Surgery of the New York Academy of Medicine, December 13, 1886.

In the intervals between the tapping the cranial walls would become tense, but the general improvement remained. The mother noticed that the tense feeling existed only at intervals during each day.

At the end of the fifth week I injected forty minims of Morton's fluid to the left of the longitudinal sinus, and twenty minims to the right of the sinus.

At the end of the seventh week I injected fifty minims of Morton's fluid into the right side of the cranial cavity, and this injection caused a sharp attack of meningitis, marked by rigors and febrile reactions, vomiting, and sleeplessness. At the end of eight days the child had recovered from the meningitis. The head increased in size for a few days after the attack, and then decreased again. I did not see the case again until four months later. At that time the child was exceedingly fat and well. She used her limbs like any other child of her age. The eyes did not protrude and her body was catching up to the enlarged head. The cranial walls were not tense. Eight months from the time when the first measurement of the head was taken, the circumference about the forehead and occiput was fifty-one centimetres, and about the chin and occiput sixty-one centimetres—figures representing natural growth, I think, in correspondence with the general growth of the body. The child continued in excellent health until July, 1886, when, according to Dr. Abruzzo, "she suddenly died in rapidly recurring convulsions, the attack beginning on the day on which she died."

The effects of surgical treatment in this case were most decided, carrying the child, with paralyzed limbs, protruding eyes, and abnormally enlarging head, to a condition of excellent health, with no symptoms of brain pressure, and limiting or stopping the dropsy of the arachnoid.

CASE II.—In June, 1886, Dr. M. A. Dumond, of West Danby, N. Y., asked me to see the following case with him and to operate if advisable.

A brief history of the case is as follows: *

Mrs. T., fifty-two years of age, began to have pain in the right pelvic region several years previously, and Dr. Dumond found, on examination a year ago, a tumor occupying the region of the right ovary and tube. The tumor increased in size, and the patient suffered several attacks of circumscribed peritonitis.

A few weeks before I saw the case the tumor, which had been movable, seemed to become attached to the abdominal wall. Shortly afterward an abscess of the abdominal wall appeared at a point two or three inches below the navel, and when this abscess was opened a fistula remained which discharged pus and a clear viscid fluid.

Inquiry subsequent to the operation reveals the fact that the patient had pain in the hepatic region thirteen years ago, with attacks of colic. She had several attacks of colic during the next few months, and thus there was a long interval of relief. She has had sick headaches frequently, however, and a year ago they came on once or twice weekly.

The patient has never been jaundiced, and has not of late years had pain which would point to trouble in the region of the gall-bladder. The peritonitis, however, which appeared to arise from the tumor in the pelvic region, has extended over the entire abdomen.

On examination, I found the left ovary and tube and the uterus to be in a normal condition. I could not find the right ovary and tube, nor could I find any sign of a morbid growth in that region. The abdominal wall, on inspection, showed a bulging in the middle line between the navel and the pubic region, and a fistulous opening, situated about three inches (two inches and three fourths) below the navel, was discharging a clear viscid fluid. On percussion, I found tympanitic resonance along the course of the colon and immediately above the symphysis pubis, but the region inclosed by these boundaries gave a dull or flat percussion-note.

On palpation, I found an immovable tumor involving the anterior abdominal wall between the navel and a point just above the mons Veneris. The tumor was irregular in outline, not painful on pressure, and not causing pain except during an attack of peritonitis. A probe would not follow the fistula.

On June 27, 1886, assisted by Dr. Dumond, Dr. Beckwith, and Dr. Kirkendall, I prepared the abdominal wall for an antiseptic operation, and then made an opening into the peritoneal cavity in the middle line just above the mons Veneris. I found the right ovary and tube enveloped in a fibrinous deposit and drawn upward, but, much to my surprise, they had no apparent connection with the tumor. I then enlarged the opening sufficiently to allow my hand to enter the peritoneal cavity, and found that the tumor had no close connection with anything except the abdominal wall and the intestines, which latter were firmly attached, as a result of peritonitis.

I then made a cut directly into the substance of the tumor and found a peculiar fibrous mass, honeycombed, with little pockets containing brownish pus.

Utterly at a loss to know what kind of a growth I was dealing with, my dilemma can be imagined. If the tumor were removed, a large piece of the entire thickness of the abdominal wall would have to go with it. If the tumor remained, the attacks of peritonitis would soon carry off the patient. I decided to remove the growth. Extending my line of incision clear to the xiphoid bone of the sternum, I cut away the involved portion of the abdominal wall, and then spent an hour in the most tedious work of dissecting away matted intestines and separating matted loops from each other. The exposed tissues were kept covered with cloths wrung out in hot bichloride-of-mercury solution while this was being done. The intestines and the tissues on either side of the tumor having been freed from it, I made a last cut at the upper extremity of the mass and opened a little cavity, exposing a gall-stone. Six gall-stones lay together in that cavity, two of them an inch long and an inch in diameter each, another about as big as a chestnut, and three little ones which were not larger than kernels of corn. There was neither pus nor bile in the cavity with the gall-stones.

With the end of my little finger I followed the line of a small closed canal along the site of the obliterated gall-bladder and cystic duct, until the tip of my finger entered the common duct. I wish that I had not done this, because a continuous flow of bile followed the withdrawal of the finger, and the peritonæum in the vicinity was soiled before I could plug the canal. I dissected up the margins of the canal, sutured them to the skin above so that bile would escape externally, sponged off the soiled intestines, washed out the whole abdominal cavity with 1–10,000 bichloride-of-mercury solution, and closed the immense wound reaching from the sternum to the pubes with catgut sutures prepared according to Kocher's method. It was not easy to get the margins of the wound together. I had removed a complete segment of the anterior abdominal wall three inches long and two inches and a half broad. The skin and subcutaneous fat could be united all along the line, but the muscular margins of the wall were certainly three inches apart at one point, although strong, deep sutures, stretched across the chasm beneath the skin, furnished temporary support.

Iodoform was sprinkled along the line of sutures, Lister pro-

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* Briefly noted in "Annals of Surgery," December, 1886.

tective applied, and a wad of bichloride gauze and cotton held in place by the binder, which was applied over all.

The patient had very little shock, and made as fine a recovery as any one could wish for. She sat up in bed eleven days after the operation; walked to a chair eighteen days after the operation; five days later walked to the next room and ate dinner with the family, and twenty-eight days after the operation walked a quarter of a mile to the office of Dr. Dumond. The patient is now well, although a tiny opening still allows the passage of bile to the skin. The wound united completely by primary union, and there is no sign of danger from hernia.

I suppose that it is unnecessary to say that the patient would have died if the antiseptic system of work had not been followed with the greatest care in the case. The shock was unimportant in degree, because the patient had a full dose of morphine before the ether was given, because the exposed tissues were kept covered with hot cloths while I was at work, and because microbes had no opportunity to overwhelm the patient, as they used to do in the good old days.

Cases III and IV represent accidents of a common sort, but, although these accidents are of the deepest interest to the surgeon, they are almost never reported. When I had the first case of the kind to treat I sought eagerly but in vain for literature which would help me in giving a prognosis, and a well-known pathologist to whom I turned for relief thought that several months of treatment might help the case, but he was not at all certain about it.

Case III.—R. H., aged seventeen, was sent to me by Dr. F. H. Whittemore, of New Haven, in February, 1884. The patient was suffering from necrosis of the head and neck of the left os brachii. In order to have the operation a bloodless one, I wound rubber tubing firmly about the shoulder and axilla. The operation was a trifling one, as it was only necessary to chisel a little canal in the os brachii and remove a few spicula of dead bone; but when the patient had recovered from the effects of the ether it was found that the rubber tubing had injured the nerves of the axilla, and the muscles of the arm were paralyzed. There was paralysis of motion at least, but my notes do not state whether or not any sensation remained at any point in the extremity. At the end of two or three days the patient could move his fingers slightly. Galvanism and massage were then employed daily, and at the end of a month all the muscles of the extremity acted fairly well by volition. It was nearly a year, however, before the arm had fully recovered its power.

It is not uncommon to see paralysis of the arm follow attempts at reducing the common dislocations of the os brachii when the heel of the surgeon is placed in the axilla of the patient for purposes of counter-extension, but I have never seen any such cases reported. Kocher's method of manipulation proves that it is not necessary to place a heel in the axilla in order to reduce a dislocated os brachii, and consequently we shall have fewer cases of paralysis from that cause in the future.

Case IV.—In June, 1886, Dr. D. White, of Ithaca, N. Y., asked me to remove a fibro-cystic tumor from the neck of a thirteen-year-old patient of his. The tumor, which had been growing for about four years, involved the sheaths of the left parotid gland and masseter muscle, and extended from a point in front of the lobe of the ear downward and backward toward the angle of the jaw. The branches of the facial nerve on that side were involved in the substance of the tumor, and it was necessary to dissect them out with the utmost care—a line at a time—and to put them on the stretch in order to avoid injuring them with the scalpel. The wound healed by primary union, but there was almost complete paralysis of the muscles supplied by the disturbed branches immediately after the operation. The paralysis was complete in twenty-four hours, and this condition remained for about seventy-two hours longer. A slight recovery of the buccal and supra-maxillary branches was then noticed, and at the end of two weeks the malar and infra-orbital branches began to recover.

The galvanic current has been employed regularly in the case by Dr. White, and at the present time, six months having elapsed, the patient is practically well. The left lower eyelid is still weaker than its fellow, and when the patient laughs it is noticed that the orbicularis oris is not so well supplied by the left facial nerve as it is by the right one.

SYMPATHETIC EYE-TROUBLE.

A PECULIAR CASE.

By J. L. MINOR, M. D., Memphis, Tenn.,
LATE ATTENDING SURGEON TO THE NEW YORK CITY HOSPITALS ON RANDALL'S ISLAND.

Miss I. I., aged twenty-six years, contracted purulent conjunctivitis in May, 1878. Ulceration of the cornea. with prolapse of the iris, occurred, and this was soon followed by general inflammation of the globe (panophthalmitis), from which the eye was lost, leaving an atrophied bulb, which was enucleated in June, with a view of furnishing a socket for an artificial eye, free beyond peradventure of any influence tending toward sympathetic trouble in the other eye. This precaution was taken at the solicitation of the patient, who anticipated an extended and lengthy tour, during which time she desired to wear an artificial eye without fear of further trouble. In August the *permanent* artificial eye was obtained, which was worn with ease and comfort until April, 1879, when the socket became irritable, painful, and inflamed, with a purulent discharge. The wearing of the artificial eye was discontinued, and in three weeks all symptoms of irritation had subsided. A point in the center of the socket remained tender to the touch, however, and there was slight prominence of the tissue here. With the disappearance of inflammation in the socket, signs of irritation in the left eye manifested themselves. The globe became *blood-shot*, there were tenderness on pressure in the ciliary region (upper portion) and photophobia. Use of the eye caused pain. Near objects, when looked at, soon became indistinct or were blurred at all times, distant vision remaining unimpaired. In a week, warm-water bathing and disuse of the eye resulted in a cure. The tenderness in the socket above referred to remained permanently, but caused little inconvenience further than anxiety on the patient's part about the remaining eye, which, in itself, was not valueless, entailing as it did greater care of this organ. The artificial eye was again introduced and worn, but near work was practically abandoned, and no further trouble was experienced until September, when the stump became painful and inflamed, and the left eye injected and tender to pressure in the upper part of the ciliary region, with photophobia and limitation of the accommodation. The artificial eye was not entirely discarded, but its use was restricted to a few hours each day. The ordinary local remedies were employed, and complete rest of the left eye was enforced, but, in spite of these precautions, the condition remained unchanged until November, when she reached the United States and placed herself again in the hospital. The only additional facts then ascertained were, that there was apparent myopia of $\frac{1}{50}$, this glass being required to bring vision to $\frac{20}{20}$; that there was limitation of the accommodation amounting to $\frac{1}{36}$, and that the retinal vessels looked a little full. The old artificial eye, being a little rough, was discarded for a new one, which was worn for a few hours daily. Rest of the left eye and confinement in a darkened room were enjoined, and in two weeks all signs of irritation in the left eye had subsided. Vision was $\frac{20}{20}$ without a glass, and the accommodation was normal. Tenderness of the prominent center of the stump continued, and it was decided to remove it. The mucous covering and underlying tissue were divided, and a small cyst, of about the size of an English pea, revealed itself in the extremity of the optic nerve. The optic nerve was severed at a higher point, and the tumor thus removed. The cyst-contents was a clear, serous fluid. The parts were allowed to heal by granulation, which was practically complete in three days, when the patient left the institution. The stump continued sensitive to pressure, but no trouble was experienced until a month later, when it became inflamed. The left eye also became implicated; there were pain on use, photophobia, and lacrymation. The artificial eye had not been worn constantly, nor was its use, for cosmetic purposes, discontinued during this or subsequent attacks of irritation. The treatment consisted in the use of warm water and soothing washes, with confinement in a darkened room. She was well in a week.

I was kept informed as to the condition of this patient for the following two years, after which she passed from my observation. During this time she was never able to use the eye for near work for more than half an hour at a time. Over-use of the eye, or its exposure to bright light, invariably brought on a return of the irritative symptoms previously experienced, both in the stump and in the good eye. And this had nothing to do with the artificial eye, for its use was free from annoyance, and its presence or absence during near work did not influence the behavior of the left eye. The use of the artificial eye was comfortable and pleasant, yet its *continued* use would bring on trouble in the good eye, as would also much use of the eye, whether the artificial eye was worn or not.

The features of interest presented by this case I would summarize as follows:

1. Sympathetic trouble arising from an eye lost from panophthalmitis—a condition occasionally but exceptionally seen. Indeed, it is so rare as to have given rise to the law that an eye lost from panophthalmitis never causes sympathetic trouble.

2. Enucleation before sympathetic symptoms occurred, and their development afterward—a condition almost as rare as that just considered, and governed by much the same rules.

3. Trouble in the *optic nerve*, giving rise to sympathetic symptoms in the *ciliary* region of the other eye. Tenderness in the ciliary region seemed to be dependent upon the cyst in the end of the optic nerve, for it was never noticed after the cyst was removed. It is held by so high an authority as Mauthner that the transmission of the sympathetic process is through the optic nerve of the *exciting eye* to the optic nerve and retina of the *sympathizing eye*, and through the ciliary nerves of the former to the uvea of the latter.

4. Limitation, with spasm, of the accommodation. This is by no means exceptional, but it shows very prettily irritation, with excitability and weakness, of the accommodative muscle, all of which disappeared when the exciting cause in the optic nerve was removed.

5. Sympathetic trouble arising in the one instance from the use of the artificial eye, and, in the other, from use or undue exposure of the good eye.

This patient was treated at the Brooklyn Eye and Ear Hospital during my house-surgeonship in that institution. She was in Dr. Rushmore's service, and it is through his courtesy that I report the case.

Correspondence.

LETTER FROM PARIS.

The Medico-legal Aspect of Hypnotism.—Hysteria and "Possession."—The Sanitation of Cholera Ships.

PARIS, *March 1, 1887.*

You have frequently noticed the study of what is called hypnotism by Professor Charcot and his *chef de clinique*, M. Babinski, at the Salpêtrière Hospital here. The Nancy school has done much to unravel as far as possible these unexplained mysteries which, under the name of mesmerism, remained so long the objects of simple curiosity and amusement, but the phenomena of hypnotism are now being submitted to rigid scientific investigation, and it is seen how vast the field is and how many medical and social problems the study raises. Whether or not the use of magnets for transferring such symptoms from one patient to another will ever amount to anything of real value only time can show. At any rate, hypnotism, or "suggestion" to the hypnotized patient, is a subject of medical investigation that has attracted a great deal of attention for the past week or so among all classes here, owing to the fact that its medico-legal aspect is now under examination. It is easy to see that it is possible for an individual to acquire an unlimited power of action upon another, so as to be able to impose his will upon him and cause him to do whatever he likes. If this can be proved, the sphere of legal responsibility will be greatly modified. Public opinion in France has been much moved by these matters, and the Government was urged to appoint a committee to examine into the question. This has been done, and the committee is holding sittings every Thursday at the Salpêtrière Hospital. The committee is composed of magistrates and professors of mental medicine, with Dr. Brouardel, the Paris professor of legal medicine. The principal questions so far examined into are the following: Can a person cause another, when in a state of hypnotism, to sign receipts for money not received? Can a person, in the same state, be forced, against his or her will, to draw a will in favor of anybody?

The mode of experimentation is as follows: A female patient, Mademoiselle A., is forced into the lethargic sleep by pressure on a suggested hypnotic point, when, by slight friction on the forehead, she passes into the somnambulistic state. Professor Brouardel then approaches her and asks her if she will accept a loan of fifty francs. At first she refuses, but, on the suggestion being forced upon her, she gradually weakens, and finally consents to accept the offer. A stamped receipt is then drawn up with every possible legal precaution, and the patient herself is quite anxious that there should be no mistake about it. She then signs it, and Dr. Brouardel puts it into his pocket, but does not offer to give her the money. She is then awakened, and acknowledges that the receipt was signed by her, but can not remember under what circumstances she was induced to sign it, or whether or not she got the money. Legally the receipt is quite valid, and, according to the present law, the holder of it could collect payment if the signer had any property or means of payment. In regard to the second matter, that of compelling a person to draw up a will in a certain way, the experiment was equally successful. Mademoiselle B. is plunged into the hypnotic state, and Dr. Babinski then tells her that it is absolutely necessary for her to make her will at once, and in his favor. She objects at first, saying that she is too young to die, etc. This lasts about ten minutes, and she goes on to say also that she wishes to give her property to her mother and other relations, but, after persistent persuasion and keeping up the suggestion that it is better to give everything to Dr. Babinski, she at last begins to weaken, and finally accepts the proposition, saying that her property consists of about thirty francs that she has saved, and that she has a ring, a brooch, and a pair of ear-rings. All this, her sole property, she then agrees to bequeath to Dr. Babinski, and the next Thursday is appointed for the signing of the will. A notary is to draw up the document, and she will sign it. Moreover, Dr. Babinski suggests to her to say nothing about it to any one in the mean time, and to say when asked that she acted of her own free will and consent, and that she was not forced to the act by anybody. The appointed day arrives, and it is noticed that the girl has been rather fidgety and nervous since early morning and says she has something to do, but does not remember exactly what it is. On being put into the somnambulistic state, however, she remembers her promise, and, when one of the bystanders is introduced as the lawyer, she immediately draws up her will and gives all that she has to the doctor. This is duly witnessed, and then the lawyers of the committee question her as to whether she is acting with complete freedom, and as to whether she has been urged to the act. She replies that she has done it all of her own free will; that she knows she has a poor family, but she would rather give everything she has to Dr. Babinski. She says, however, that she is obliged to do so, but when asked for what reason, can not tell. When she is awakened she repeats the same story.

These experiments prove the legal irresponsibility of these patients, for it is obvious that they can be made to commit many acts without knowing why it is that they are compelled, as it were, to do them. The researches are still going on, and I shall report further on them if any important facts are presented. In his faculty lectures, this year, on rape, etc., referring to the question of the bearing of hypnotism on his subject, Dr. Brouardel said that he was not disposed to believe that suggestion could be used in the commission of criminal acts against the person. To be sure, the possibility of criminal connection in the mesmerized state was not exactly denied, but it must be taken into account that the female subjects must be entirely consenting parties before they are put into the sleep, and that it is probably impossible to get them into the sleep without their consent. Besides, there is no evidence that coitus can be accomplished without the patient's knowledge; indeed, it is often astonishing how much they do know and hear when in the trance-like state, as is frequently proved in the hospital when some one is rash enough to make depreciating remarks, and is told of it pretty sharply when the patient awakes.

One of the curious sides of this matter is shown in the religious journal "L'Univers," which seems to see a terrible heresy in the study of hypnotism, and denounces the new science as "dangerous to morality." In his studies, M. Charcot called in the aid of instantaneous photography, and he has "taken" his patients in every phase and attitude of their complaints. Afterward, when the history of these maladies was hunted up, it was found that these attitudes were precisely those represented in certain ancient works of art. All who know Professor Charcot well know that he is something of an artist himself. He has a great taste for art, and every year, when traveling, he has visited old churches and museums. He has been struck at finding that old church paintings portraying the lives of saints and those who were supposed to be "possessed," represented exactly the appearances that instantaneous photography revealed in his hysterical patients. This idea was followed up, and long search proved that paintings by Andrea del Sarte, Rubens, Roselli, Van Noort, and many others of the old masters were simply copies from nature, faithfully representing the convulsions of hysterical men and women. Some very curious examples of these "miracles" were certainly only manifestations of St. Vitus's dance or hysteria. So we fear that another of the world's cherished ideas is being decidedly undermined—whence the wrath of the pious sheet against M. Charcot and his fellow-workers.

Dr. Proust, the professor of hygiene at the Paris faculty, lately gave an account of the results of the measures he had proposed to the recent congress at Rome for disinfection on board ship. They included large steam ovens to sterilize clothing, boilers for linen, bath-rooms, with enforced bathing, and strict cleanliness in all parts of the ship by frequent washing with chlorinated lime—all under the direction of a physician on board. The case is cited of a French transport, the "Mytho," which has just brought home some nine hundred souls from the East without any deaths from cholera, owing to the rigorous disinfection on board. Dr. Proust thinks that, if such decided measures are taken on board ship, infectious diseases will not be imported as they are now, and that quarantines of observation will be rendered unnecessary as well as useless, for, notwithstanding the usual number of days a ship is detained, it can not be made wholesome. The longer the voyage the better, as disease, taken on board, can be crushed out *en route*, particularly if a careful inspection is made of ships and passengers *when they leave*, and not when they arrive.

The Value of Vital Statistics.—In a supplemental report to the Governor of West Virginia, Dr. T. A. Harris, the secretary of the State Board of Health, says:

"The value of vital statistics is hard to estimate, for it must necessarily furnish the foundation of sanitary science, and many other interests make it desirable that we should know the births, marriages, and deaths of our people, with the cause of the deaths. . . . I would suggest that, under the general direction of the Secretary of State, the secretary of the State Board of Health be made Registrar of Vital Statistics. That he should collect these statistics and prepare and publish a report of them in connection with the report of the State Board of Health, and that he should receive such compensation for his services as the State Board of Health may fix, said compensation to be paid out of the money now appropriated for the State Board of Health. That it be made the duty of the clerks of the county courts to make returns to the secretary of the State Board of Health of the births, marriages, and deaths annually on the 1st of July, and that such returns be made on forms to be supplied them by the Secretary of State. . . . . That it be made the duty of every physician, coroner, and undertaker to report every case of death to the clerk of the county court within thirty days thereafter. To insure the performance of these duties, I think some compensation should be given for the performance, and some penalty attached to the failure to do so."

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THE MANAGEMENT OF VALVULAR AFFECTIONS OF THE HEART.

A study of Sir Andrew Clark's paper on heart disease, which formed the basis of an article published in our last issue, calls up some interesting questions as to the treatment of cardiac affections. It will be remembered that the cases observed by that author had run a favorable course for a term of years independently of any treatment or of obedience to any particular rules of diet or mode of life. A natural inference from the facts is that a person suffering from heart disease of that character had better be let alone and allowed to follow his usual pursuits and habits. A close analysis of the paper, however, reveals an instructive lesson, and furnishes a valuable clew to the management of these affections. It was ascertained that all the patients had been in fair circumstances, that they were not given to worry, and that they used tea, coffee, alcohol, and tobacco in moderation. The ideal life that the author depicts for a person suffering from valvular disease may seem impracticable and unnecessary in the light of his own cases. But every such person can and should be enjoined to take but small quantities of the articles mentioned, and especially to be cautious in the use of tobacco. The latter precept can not be too strictly enforced, particularly if the heart is inclined to be irritable. Recent observations have shown that the immoderate and long-continued use of tobacco may of itself bring about organic changes in the muscular substance of the heart.

Within the past few years almost a complete revolution has taken place with regard to the admissibility of exercise in cardiac affections. To Oertel, of Munich, must the credit be given of having dispelled the fear of allowing patients with valvular lesions a moderate degree of exercise. This clinician looks upon exercise in these conditions as a valuable therapeutical agent, but one requiring the same strict watch and carefulness as any powerful drug. But the rules he lays down could be carried out only at a regular establishment under constant medical supervision. In general practice it may be thought safe, unless the person is given to very arduous physical labor, to make no restrictions on the exertion necessary in his employment. But it must be well understood that not every person with a damaged heart may go about his customary work and follow his ordinary habits with impunity; in a certain number of cases such a course would be extremely injudicious, and might terminate life abruptly. When, according to Sir Andrew Clark, the heart is irritable, frequently intermitting, or irregular, when the murmurs vary in character and intensity, when there is any suspicion that recent changes have been occurring in the interior of the organ, and more especially when there is any febrile disturbance of the system, it is necessary that the patient be kept at rest and fed upon the lightest food.

GASEOUS MEDICATION BY THE RECTUM.

In a letter published in our issue for December 18, 1886, our Paris correspondent gave an account of a novel method of treating phthisis broached by Dr. Bergeon, of Lyons. The method proposed has evoked considerable mirth and an amount of levity that the members of so grave and serious a profession as that of medicine are seldom credited with. In a recent number of the "British Medical Journal," Dr. J. H. Bennet, of Paris, communicates his observations on this mode of treatment. He confesses that at the outset he was very dubious as to the results to be obtained by Dr. Bergeon's method, but he says he was induced by the well-known honesty and professional standing of its author to give it a trial. He cites a case of advanced phthisis, in a girl of sixteen, in which rectal injections of sulphureted hydrogen certainly ameliorated the symptoms—all that could have been expected from any treatment in that instance. One of the drawbacks to the treatment, Dr. Bennet remarks, is that it is most painful to the feelings of the patient, and not less so to those of the medical attendant. It seems that the bacilli do not entirely disappear from the sputa, even in the cases most completely mitigated. This circumstance, says Dr. Bergeon, goes to imply that the bacilli are not the *fons et origo mali* of phthisis. He says he does not propose his plan as one of antimicrobic treatment, but merely as one that succeeds. Dr. Bennet states that he has spoken to several physicians who are trying it, and that they all report unexpected good results. In his "Notes and Comments," in the last number of the "Canada Medical and Surgical Journal," Dr. William Osler says that the method is being applied in phthisical cases in the wards of the Philadelphia Hospital—with what success is not stated.

MINOR PARAGRAPHS.

THE "TUBE-LENGTH" OF A MICROSCOPE.

We are glad to observe that Professor Gage, of Cornell University, has lately issued another of the concise and exceedingly clear working manuals that he seems particularly clever in producing. The one in question is entitled "Notes on Microscopical Methods," and is designed as a companion to the author's "Notes on Histological Methods." As an example of Professor Gage's attention to details that are often overlooked by authors, and also as a piece of information that may prove useful to many of our readers, we may mention his summary of the different meanings attached by various opticians to the term "tube-length." The Gundlach Optical Co. says that it includes both the ocular and the objective. Carl Zeiss is quoted as saying that it is "measured from the upper surface of the setting of the objective to the upper margin of the body-tube, on which the eye-piece rests." J. Grunow defines it substantially in agreement with Zeiss. H. R. Spencer & Co. understand it as the distance from the front of the objective to the field-bar of the eye-piece. J. Green (Tolles's successor) agrees with Spencer & Co. as to the upper limit, but fixes the lower limit at the front shoulder of a three-system objective or a point about midway between the systems of a two-system objective. The

Bausch & Lomb Optical Co. places the upper limit at the same point as Spencer & Co., but consider the lower limit to be the focal plane of the objective. The "Notes" are replete with such practical information, and, in our opinion, they will prove of the greatest value to students of microscopy.

POST-GRADUATION HINTS TO NURSES.

What the ordinary graduate of a nurses' training school most needs, when she emerges from the hospital and undertakes private nursing, is to have her technical training supplemented, and perhaps to some extent rectified, by sound advice on the ethical and prudential aspects of her calling. For lack of this, many a woman has made herself a nuisance in place of a treasure among those who have been unlucky enough to employ her. The time is rapidly approaching when these women of excellent attainments will be forced by competition either to train themselves anew or give place to their better-advised rivals. To those who are wise enough to choose the former course we would commend the careful study of an address delivered at the Boston school, connected with the Massachusetts General Hospital, by Dr. William L. Richardson, published in the form of a pamphlet at the request of the directors of the school. Dr. Richardson's sound and wholesome admonitions are so pervaded with kindliness that, pointed as they are, no woman at all worthy to be a nurse can fail to be favorably influenced by them.

PAST AND PRESENT METHODS OF TREATING WOUNDS.

Dr. W. A. M. Wainwright, of Hartford, Conn., lately read a brief paper before the Hartford County Medical Society, entitled "The Modern Treatment of Wounds." In its published form, it is an excellent guide to the essentials of the antiseptic method, the importance of which as an advance in surgery is sharply and irresistibly enforced by a newspaper item taken by the author, as he puts it, as the text of his little sermon. The item recounts the case of a railway brakeman who had one of his fingers nearly torn off, and, blood-poisoning following, had his hand and forearm "lanced twenty-four times," but was at last "slowly gaining." This sequence of events, as Dr. Wainwright aptly reminded his hearers, was almost of constant occurrence twenty years ago, and its sharp contrast with the way in which wounds are now made to heal ought to silence the last anti-Listerian skeptic.

THE CITY BOARD OF HEALTH.

The announcement that the Mayor has appointed Mr. James C. Bayles, of Orange, N. J., to be president of the board seems to have brought out little that is not purely speculative in the way of comment. The appointee is said to be the editor of a trade journal and to have written on subjects connected with house sanitation. The great point in his favor is that his appointment is understood to be received with disfavor by the politicians, and we must take it for granted that so public-spirited a man as Mayor Hewitt would not have appointed a non-resident to such an important office in the absence of good specific reasons for doing so.

MILK AS A MEDIUM OF INFECTION.

The spread of disease through the medium of milk has often been demonstrated, but seldom more strikingly than by an investigation lately pursued by the Massachusetts State Board of Health, for the purpose of discovering the cause of an outbreak of typhoid fever that occurred last autumn in a certain district in Cambridge. It was found that all the milk supplied to the district came from one farm in New Hampshire; that on the farm there was a well into which a privy vault drained, the water of the well being used to wash the milk cans; and, finally, that last summer a person lay sick with typhoid fever on the farm. The conclusion was unavoidable that the fever-germs were carried in the milk, and thus the disease disseminated among the people of Cambridge.

TWO NEW FORMULARIES.

Formularies of non-official preparations we by no means regard as among the productions that an enlightened physician can properly look upon as too trivial to command his attention. Indeed, it seems to us that the contempt of them sometimes expressed betokens either affectation or a strange misconception of the diversity of resources with which a practitioner of medicine ought to be provided. Taking this view of the matter, we are glad to note the recent appearance of the American Pharmaceutical Association's committee's "Preliminary Draft of a National Formulary," reprinted from the association's "Proceedings" for 1886, and a revised edition of the "Hospital Formulary," issued by the Department of Public Charities and Correction of the City of New York. The scope of these two publications is quite different, the first one giving formulæ of preparations which, although for the most part not official, are intended to be official, while the second includes many formulæ that probably originated in extemporaneous prescriptions. Both are of decided value, and it is our impression that both may be studied with profit by physicians as well as pharmacists.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 15, 1887:

DISEASES.	Week ending Mar. 8.		Week ending Mar. 15.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	6	5	6	3
Scarlet fever	54	15	43	8
Cerebro-spinal meningitis	2	2	3	3
Measles	213	17	155	27
Diphtheria	93	39	96	48
Small-pox	15	1	11	0

The Woman's Medical College of the New York Infirmary.—A public meeting was held in Chickering Hall on Monday evening, the 14th inst., in aid of a movement to obtain funds for providing the institution with a new building. Several well-known physicians, including Dr. W. H. Draper, Dr. J. West Roosevelt, and Dr. M. Putnam Jacobi, were among the speakers. The Mayor and a number of prominent citizens were constituted a committee to solicit contributions to the building fund.

Bellevue Hospital Medical College.—The twenty-sixth annual commencement exercises were held at the Carnegie Laboratory on Monday evening, the 14th inst. The degree in medicine was conferred on 134 candidates.

The Police Medical Corps. — It is announced that Dr. Lucien Damainville has been appointed surgeon, in place of the late Dr. Purroy.

The Society of the Alumni of Bellevue Hospital was organized last June, its objects being the consideration of medical and surgical topics in their clinical and therapeutical aspects and the promotion of social intercourse among its members. Its meetings are held on the third Wednesday of each month, except July, August, and September. Any physician in good standing, being a graduate of Bellevue Hospital, is eligible to membership. The initiation fee is five dollars.

Bellevue Hospital.—Dr. Austin Flint has been appointed visiting physician to the hospital, in place of the late Dr. Austin Flint, Sr., the position having been occupied provisionally during the past year by Dr. H. M. Biggs.

The Disposal of Stable Refuse.—The city Board of Health has amended the Sanitary Code so as to provide that in future stable manure must be baled or removed as soon as a cartload has accumulated, and that no receptacles for its storage outside the stables can be used without a permit.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 6, 1887, to March 12, 1887:*

Alden, C. H., Major and Surgeon. Ordered for duty at U. S. Military Academy, West Point, N. Y., August 28, 1887, relieving Lieutenant-Colonel Andrew K. Smith, surgeon, who will then report by letter to the Surgeon-General. S. O. 52, A. G. O., March 5, 1887.

Carter, William F., Captain and Assistant Surgeon. Granted leave of absence for one month on surgeon's certificate of disability. S. O. 25, Department of Texas, February 24, 1887.

McCreery, George, Captain and Assistant Surgeon. Leave of absence extended one month. S. O. 52, A. G. O., March 5, 1887.

Johnson, R. W., Captain and Assistant Surgeon. Ordered for temporary duty at U. S. Military Academy, West Point, N. Y. S. O. 51, A. G. O., March 4, 1887.

Edie, Guy L., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, to take effect about March 1, 1887. S. O. 27, Department of Texas, February 28, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ended March 12, 1887:*

Bradley, George P., Surgeon. Detached from the Naval Hospital, Philadelphia, and granted six months' leave.

Steele, John W., Passed Assistant Surgeon. Ordered to the Naval Hospital, Philadelphia, without delay.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ended March 12, 1887:*

Banks, C. E., Passed Assistant Surgeon. To proceed to Chicago, Ill., and assume temporary charge of the service. March 10, 1887.

Society Meetings for the Coming Week:

Monday, *March 21st:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *March 22d:* New York Dermatological Society (private); New York Academy of Medicine (Section in Laryngology and Rhinology); Buffalo Obstetrical Society (private); Medical Society of the County of Lewis, N. Y. (quarterly).

Wednesday, *March 23d:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Philadelphia County Medical Society (conversational).

Thursday, *March 24th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private); Pathological Society of Philadelphia.

Friday, *March 25th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *March 26th:* New York Medical and Surgical Society (private).

OBITUARY NOTES.

Edgar L. Andrews, M. D., died at his residence, in the West Farms district of the city of New York, on Saturday, the 12th inst., in the twenty-seventh year of his age. The deceased was a graduate of the Medical Department of the University of Vermont.

Letters to the Editor.

A SIMPLE METHOD OF TREATING EPISTAXIS.

Sheldon, Ill., *March 7, 1887.*

To the Editor of the New York Medical Journal:

Sir: Having seen the statement in various medical journals that it is better not to plug the posterior nares in cases of epistaxis, but that the patient should be instructed to breathe through the mouth until clots form, etc., it occurs to me that a better and safer way should be made known. At least I think I have found it to be better. The method is not new as applied to other forms of hæmorrhage, and its application to the control of nose-bleed may not be new, but I have not heard of its being used for that purpose. It consists in tying a piece of bandage around each thigh, close to the body, and, if necessary, around each arm also, just tight enough to prevent the venous circulation without interfering with the arterial. Thus a large amount of blood will be retained in the extremities, the tension of the bleeding vessels will be relieved, and the bleeding will almost instantly cease. I have used this simple expedient a good many times, and have always succeeded almost instantly in stopping the hæmorrhage. I believe the case to be rare that will require anything more to be done. Of course, the ligatures should be left in place long enough to allow clotting to take place; then they should be removed gradually and one at a time, so that a sudden return of a large amount of blood to the circulation may not remove the clots.

Z. E. Patrick, M. D.

Proceedings of Societies.

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of February 5, 1887.

Dr. T. E. Satterthwaite, Chairman.

New Drugs.—Dr. G. W. Hays presented specimens, among others *agaricine*, an alkaloid used with decided success in checking the perspiration of phthisis and that caused by antipyrine. It was given in the Bellevue Hospital in solution with atropine, the combination being $\frac{1}{10}$ grain of agaricine, $\frac{1}{120}$ grain of atropine, and ten minims of aromatic sulphuric acid. The action of agaricine was realized a few hours after its administration. It was given with antipyrine; in other cases, such as those of phthisis, it was given several hours before the sweating was expected to occur. Agaricine was also administered hypodermically, but this use of it was very painful except where cocaine was simultaneously used.

Solanine, another alkaloid comparatively new, was used in the place of morphine, in doses of from one to five grains by the mouth, or hypodermically in a dose of half a grain.

Coumarin, the active principle of the tonka-bean, was used to disguise the odor of iodoform.

Colocynthin, a glucoside obtained from colocynth, had been recently presented by Merck to the Medical Congress at Berlin. It might be given by enema or hypodermically. Formerly there was no cathartic which could be hypodermically administered. This was also, however, painful, while the rectal injection was said to be equally effective. The hypodermic dose was $\frac{1}{10}$ grain; by rectum, one to six grains. A specimen of *pancreatin* of peculiar beauty was shown, resembling a scale salt of iron; also a specimen of osmic acid, recommended for the cure of peripheral neuralgias and epilepsy.

Sparteine was an alkaloid from broom-tops, long known but only lately used as a cardiac tonic.

A New Polypus Snare.—Dr. GEORGE B. HOPE presented a modification of Schroetter's snare designed by himself, and having certain advantages over Jarvis's snare. Added to the écraseur movement it had a screw attached to the thumb-piece, enabling the operator to remove harder tissue than was possible by ordinary manipulations; also to remove hypertrophied tissue not full enough to be caught in the net. The head was flat, thus allowing a close approximation to the tissues, and the wire was prevented from being withdrawn too far into the cannula, while in the Jarvis snare it was almost impossible to release the wire without re-threading. An old Schroetter instrument might be altered into this one, but it was better to have a new steel instrument which would not bend.

An Improved Amygdalotome.—Dr. HOPE showed also Dr. Mackenzie's latest improvement on his amygdalotome, which now had an arrangement so that the handle could be transferred from one side to the other. With the old instrument the operator had to change the instrument from one hand to the other, or twist the hand so as to bring it in the way of the light.

Bacteria, and their Relation to Disease.—A *résumé* of a paper on this subject that had been read at the January 15th meeting of the society was given by the CHAIRMAN, who, in introducing the subject, said that he thought it advantageous to quote from a paper he had read ten years before at the International Medical Congress, held in Philadelphia, because he believed a fair representation of the topic had been given at that time, and because he wished to note the conclusions that were accepted by the Congress. The germ theory was there characterized as embracing three subordinate hypotheses, each of which had its adherents. There was (1) the vegetable germ, (2) the bioplasm, and (3) the physico-chemical or physical. The vegetable germ theory, which then, as now, was of the most engrossing interest, was born of Schwann's labors, for he detected minute vegetable organisms in fermenting fluids, though it was Pasteur's province to ascribe the fermenting process to these self-same organisms, while later still it began to be assumed that infective diseases might have an analogous origin.

The conclusions adopted by the Congress were as follows:

1. That, as far as inquiry had been made as to the nature of the active principles in infective diseases, it was probable that in a certain number the matter was particulate, or molecular in form.

2. That in regard to the causes of septicæmia, pyæmia, puerperal fever, erysipelas, and hospital gangrene, and those of cholera, vaccine-disease, the carbuncular diseases of men and animals, typhoid and relapsing fevers, and diphtheria, there was not satisfactory proof that they were necessarily connected with minute vegetable organisms.

3. That the real nature of these causes was still uncertain.

Nor was there proof wanting to substantiate this view, for Schoenlein's discovery of a microphyte in favus was instanced as a proof in point, and it might now be said that almost all dermatologists maintained the microphytic origin of this disease. But the second-named theory had not been without vigorous and able exponents. It was linked with the name of Lionel Beale, one of England's best-known microscopists, and the well-known Jonathan Hutchinson, of London, had also supported it—at least in so far as to believe that the contagious element in gonorrhœa, puerperal fever, and septicæmia was due to the living matter of the animal body.

The third theory had for its ablest champion the brilliant Bastian, who did not hesitate to take his stand boldly and maintain Liebig's theory in modified terms, alleging that, "though minute organisms may act as ferments, they do so by virtue of chemical actions set up by them, while minute particles of the human body have almost an equal capacity for setting up diseased action under suitable circumstances." In either case, he added, bacteria were apt to be engendered as correlative products.

The speaker then added that any discussion as to the germ theory at the present time should be in full view of these disease hypotheses. In taking up the subject of fermentation it was stated that it might take place without the intervention of microphytes, and he stated at some length the older views as maintained by Liebig, Kahl, and others, and further affirmed that Pasteur had been compelled to make an admission to this effect. In allusion to Dr. Hermann Knapp's interesting paper, read before the Academy of Medicine, where fermentation had been defined as "the decomposition of hydrocarbons into simpler compounds under the influence of mirobes," he asked whether this statement was not a broad one, and then called attention to a special group of phenomena in which fermentation was produced by chemical agencies, such, for example, as hydrochloric acid, the acid suffering no alteration in its chemical constituents. Among other substances acting in this way were pepsin and the diastase of malt. Again, cane-sugar was changed into grape-sugar, not by the yeast, but by a ferment, which could be separated from it. Furthermore, the speaker stated that there were those who maintained that bacteria could occur without putrefaction. Dr. Knapp had maintained that suppuration and putrefaction were the same process, and his experiments with pyogenetic cultivations were strong proof of the attitude he had taken. But there was still a difference of opinion on this very topic, as would be admitted on all hands. Allusion was then made to laboratory researches which led one back to the "physico-chemical" theory of Bastian, and more particularly to the report from the Bureau of Animal Industry in Washington by Dr. Salmon and Dr. Theobald Smith, where these gentlemen, after several years spent in searching for the contagion of hog cholera, had come to the conclusion that the poison was not in the microphytes, but in the product of their growth; that this substance could be produced as well in the laboratory as in the body, and that immunity from the disease could be secured by introducing this substance into the animal.

The speaker then referred to the following postulates that should govern those who were searching for the virus of an infectious disease if its bacterian theory were to be maintained in a rigid sense:

1. The microphyte should be found in the products of the disease.

2. It should be capable of isolation.

3. It must retain its properties as a destructive morbific entity when isolated.

4. It should be shown that the poison was not a chemical substance that was associated with the growth and development of the microscopic plant.

He asked: "Are there many of the so-called disease germs that can stand these tests?"

The speaker said, in conclusion, that he coincided with Cornil and Bates, who, in their admirable treatise on bacteria, had admitted that animal experimentation was a delicate matter; the size and shape of bacteria in special diseases a matter of contention; the methods of study new: the technique difficult even for an experienced worker; while the chemical substances linked with the evolution of bacteria had as yet received no satisfactory analysis. The speaker then briefly alluded to the higher powers necessary for bacteriological work, and called special attention to the new Zeiss apochromatic lenses and compensative eye-pieces made at Jena, with a new species of glass, under the supervision of Professor Abbé. He also exhibited the full plant for his bacteriological laboratory, made for him by Messrs. Eimer & Amend, of New York city, and finally exhibited a series of colored illustrations showing typical examples of the recognized pure cultivations in test-tubes and on glass plates.

Dr. **Hermann Knapp** said that his remarks would be confined to what he had seen in laboratory work. He never had taken so high a flight as the determination of the products of bacterial activity. He was, however, aware that bacteria had a certain action in connection with disease, and he was not prepared to say that their secretions did not count. He said that our knowledge of suppuration was more fragmentary than that of fermentation, and that was fragmentary enough, yet we could avail ourselves of the history of the yeast plant in explanation of other phenomena. Pus resembled a simple leucocytic fluid, and yet practically behaved in a very different way. If, with proper precautions, croton-oil was introduced into the anterior chamber and a glass cover was put over the eye, in six or eight days the globule of oil would be found to have disappeared, and after a while there would come in its place a white fibrinous mass, which looked like pus, but contained not one microbe. If inoculation was practiced, no growth occurred. If, after operating for cataract, the wound was infected with this matter, it would heal by first intention. On microscopic examination, this product was found to consist only of leucocytes and fibrin. In syphilitic iritis there was, on the contrary, a true suppuration, a destructive process, a decomposition of animal tissue similar to the decomposition of cane-sugar by the yeast plant. The pyogenic product of this inflammation would infect the culture medium. Where a foreign body, such as a piece of iron or croton-oil, was introduced into the anterior chamber, a fibrinous lymphatic discharge was produced, but no suppuration. The product looked like pus, but was not pus. Where pyogenic material was inoculated with, if the conditions were favorable, suppuration was produced, and suppuration was never produced without it. To get suppuration there must be a favorable soil and a favorable condition of the pyogenic organism. The younger the cultivation, the more virulent it was. The commencement of an epidemic was the most fatal. Then the disease gradually died out. The pyogenic poison also in three, four, or five weeks became inert. What, he asked, was the chemical difference between these two forms of matter? The substance which stamped the one as infectious was the microbe. Not every microbe was capable of producing suppuration. For instance, the yeast plant did not produce suppuration. The speaker had half filled the anterior chamber with the yeast plant, and after some congestion the whole of it had disappeared. The pyogenic product acted differently. If a very little of this was introduced, the eye was gone. Not every species of microbe, then, would produce suppuration. Some said that those which produced general fermentation would produce suppuration, and others that pyogenic microbes were those which curdled milk, but many organisms which produced fermentation had no influence upon milk. All that could now be said was that they were a morbific entity, a living formed substance, not simply a chemical compound, but a plant or an animal. The same was true of specific diseases. We had no tubercle without the bacillus. Ptomaines would not produce it; we must have the living organism itself. The jequirity poison was in contrast with this principle. The berries were crushed and covered with water, which then swarmed with micro-organisms, and an injection produced the inflammation sought. This emulsion could be filtered, however, until not a microbe remained in the filtered substance. If, then, the microbes remaining on the filter were cultivated and inoculation made with them, this inoculation would fail; while, if the eye was brushed over with the liquid, a croupous inflammation would be obtained, and it was doubtful whether from this product another eye could again be infected. The irritant acted chemically, just as croton-oil or sulphuric acid would do, producing a lymphatic inflammation. Those who said that a new infectious disease had been introduced by jequirity made a mistake.

In internal diseases, the speaker believed each variety dependent upon a distinct species of microbe. So far as examination had been made it confirmed this view. The secretions of scarlet fever never produced cholera, those of cholera never produced measles, while the typhus bacillus was a thing apart, never connected with another disease. In Europe, bacteriology was being thoroughly studied. Every young physician had his cultivations. Even if he discovered nothing, he thus obtained an interest in and an understanding of the subject. Here, on the contrary, it was a matter of curiosity, and regarded as a transcendental study at the best. Its value, however, could not be exaggerated. The history of disease showed that it grew like a plant. The soil was prepared, the seed was sown, and it reproduced itself. The more this matter was studied the more fruitful did it become, explaining many of the phenomena seen in practice in a simple and practical way. In conclusion, the speaker referred to the diseases of plants, which were pretty well understood, and which were almost exclusively parasitic.

Dr. **Hays** had been asked, Was fermentation always produced by germs? One theory was that of Liebig and the other that of Schwann and his followers. Fermentation could occur by oxidation—that was, by chemical and physical forces, or by the agency of germs which used up carbon and thus liberated oxygen. There was no chemical difference between putrefaction and fermentation. Putrefaction was accompanied by odor, and fermentation was not. The action of the two varieties of ferments was very different. Pepsin was a ferment, changing albumin to albuminose, and the yeast plant was a ferment, changing cane-sugar to alcohol; but the pepsin was not altered by its activity, while the yeast plant was multiplied a millionfold. Blood, bile, milk, and urine would decompose without the presence of germs, at least for a long time. Again, microbes would not produce disease in healthy organisms, according to Klebs, but only in those which were below par. In reply to the question, he would say, then, that it was uncertain whether fungi were necessary for fermentation, especially in the beginning of the process.

Dr. Knapp said, in reply to this remark, that, if the fermenting microbes were withheld from grape-sugar, fermentation would not occur whatever was done with it. If we first washed the air passing over a sterilized solution of grape-sugar, according to the method of Schultze, the liquid would remain unfermented through eternity. The speaker had specimens of urine which had been kept for three or four months, and were still fresh. Schwann's method by heating, or any way in which the air was sterilized, might be used. In his laboratory he had flasks of boiled milk preserved for a long time. The Pasteur flask with the bent neck was used. Microbes were not gaseous; they were heavier than air. To get into these flasks they would have to go up, and they would no more go up than water would travel up hill.

Dr. Hays considered the microbe not the cause but the accompaniment of fermentation. This should no longer be said. It was possible to obtain a pure cultivation of the tubercle bacillus. Material was taken from the joints or lungs, and cultivated in blood-serum. It was a distinct plant, with distinct morphological products. It could be carried to the sixtieth generation, when not a particle of morbific substance remained, nothing but the microbes, and when, if even the smallest particle on a needle was introduced into the anterior chamber, or even into a stitch canal, in four weeks there would be tubercle of the iris, and in two months the animal would die of general tuberculosis. In sterilizing, the different resistances of the rods and spores had to be considered. Many fallacies had resulted from the neglect of this principle. The French method of sterilizing was insufficient. A receptacle, containing chicken-broth or other culture medium, was placed within another receptacle, and was subjected to steam heated to 130° Celsius. The spores of the tubercle bacillus were not destroyed in a temperature of less than 100°. If in this receptacle the thermometer was sunk at the side, it would be found to indicate 100° to 110°, while in the center it would not rise higher than 70°. This imperfection in this method of sterilizing had given rise to many controversies. The correct way to sterilize was by streaming steam. It was well known that circulating air cooled more rapidly than still air of the same temperature. If streaming steam was used for from one half to three quarters of an hour for several days, the sterilization would be sure to be perfect. But the tubercle bacillus was fastidious; it would not grow upon anything but blood-serum, and blood-serum could not be heated to 100° without coagulating it. Recourse was therefore had to Tyndall's partial method. A test-tube containing blood-serum was heated to 57°. The serum then became firm, but not coagulated, and the spores of the tubercle bacillus at once germinated, forming new rods. These rods would not stand a temperature of 57°, hence, if for six, seven, eight, or nine days the tube was subjected to a temperature of 57° for three or four hours at a time, there would not be a spore left; all would have germinated, and all been destroyed. It had been said that microbes in living organisms did not always produce disease. Certainly they must have food. Pyogenic germs would not produce an abscess in the anterior chamber without some injury of the iris or some irritation such as was afforded by croton-oil; they would simply be absorbed. Even Liebig gave into this theory before he died, and chemical objections were losing every day as biological science was coming to be better understood.

Dr. Kearney referred to Dr. Knapp's paper in the "Medical Record." He understood that Dr. Knapp defined putrefaction as the decomposition of living matter, and fermentation as the decomposition of dead matter.

Dr. Knapp did not know any better definition than this.

Dr. Kearney asked whether this was a definition which he had himself deduced.

Dr. Knapp replied that it was. He did not know how it would stand the test of experience, but, so far as his observations had extended, he considered it correct. The pus of suppuration was again entirely different from the products of putrefaction.

Dr. Satterthwaite said, in concluding, that he thought there was no issue as to statement between himself and Dr. Knapp. The fact that fermentation might not always be produced by microbes, and the fact that it might be produced by certain acids, should not be regarded as irreconcilable with the germ theory. Both were logically possible and probable, if not certain. Nor did he wish it to appear that he was a disbeliever in the old and classical experiments of Schwann, Schroeder, Von Dusch, and others. He accepted them as satisfactory demonstrations that the air might contain certain minute molecules that would initiate fermentation. So far as bacteria were concerned, however, he would emphasize the discovery of Pasteur with relation to chicken cholera, and of Smith and Salmon in hog cholera, that a peculiar product of the specific bacteria might reproduce the disease, as well as the bacteria themselves. But this discovery was not opposed to the vegetable germ theory. It simply carried us in a measure back to the physical or physico-chemical theory of Bastian, already alluded to. Though a great deal of the work done in the study of bacteriology had been necessarily imperfect, still he thought that in at least seven of the diseases often called infectious—viz., anthrax, tubercle, erysipelas, osteomyelitis, glanders, Asiatic cholera, and hog cholera—there was excellent evidence to show that the virus was associated with a microbe. The weight of argument at present lay heavily on the side of the germ theorists in these regards. In these diseases the microbes had been separated, cultivated, and inoculated or introduced into the system in some way, and the disease had been reproduced. Beyond this rather small array of diseases we could hardly affirm anything with certainty, and yet it would be improper to omit that these appeared to be genuine pyogenetic fungi, such as had been described by Dr. Knapp. With these suppuration would almost inevitably follow. Without them operations would, as a rule, be strictly non-suppurative.

The points that he thought satisfactorily brought out in the discussion were that neither the morphology of bacteria nor their behavior in the presence of coloring reagents should be held to have prime diagnostic value. Efforts should be made in all cases to separate, cultivate, and inoculate.

NEW YORK SURGICAL SOCIETY.

Meeting of February 23, 1887.

The President, Dr. Charles McBurney, in the Chair.

Ligation of the External Carotid Artery; a Synopsis of Five Successful Cases.—Dr. John A. Wyeth read the following paper:

Prior to 1878 there were recorded only sixty-seven cases in which the external carotid artery alone was tied. Three of the patients died, and these fatal cases were from gunshot wounds in military practice. One died on the table from the effect of hæmorrhage before the ligature could be applied. In the two others the cause of death is not given. Of the sixty-seven cases, hæmorrhage after deligation occurred in five, none of which proved fatal. In four of these cases the bleeding was noted as at the seat of lesion, beyond the ligature, and in one the point where the hæmorrhage occurred is not stated. The artery was tied on both sides in six patients, and all recovered.

Since the demonstration (by myself in 1878) of the comparative regularity of origin of the branches of this vessel, together with the great mortality following deligation of the common carotid, as shown by an analysis of seven hundred and ninety-four cases, the application of the ligature to the common trunk for a lesion in the distribution of the external carotid, beyond the origin of the lingual branch, has been abandoned and deligation of the external trunk has become the accepted operation.

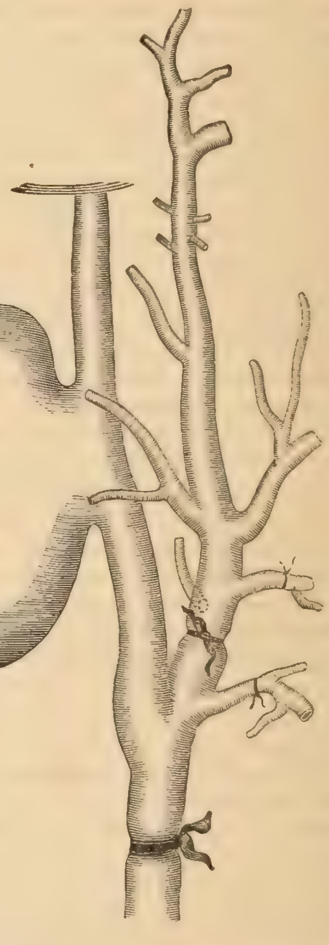
The introduction of the catgut ligature has added an element of safety to this freedom which has, in my opinion, almost entirely removed the danger of secondary hæmorrhage. Without further discussion of its merits, I wish to add to the record the following cases:

Case I.—M. M., a carpenter, fifty-six years old, married, American, came under my care through the courtesy of Dr. Boyley, of this State, on January 6, 1885. The patient's history contained nothing of interest, with the exception that he had been a constant chewer of tobacco until one year before, when he stopped on account of a painful sore which appeared on the left buccal wall, at the point where he was in the habit of holding the tobacco as it was being saturated with saliva. The ulcer and induration gradually spread, and when I first saw him there was an evident epithelioma involving the buccal wall and a limited portion of the alveolus of the lower jaw. The lymphatic glands of the left upper carotid and submaxillary triangles were enlarged and indurated. On January 9th, under ether narcosis, I dissected out the glands, and, partly in order to prevent bleeding, but chiefly to retard the recurrence and further development of the neoplasm, placed a catgut ligature around the left external carotid artery below the lingual and about a third of an inch above the bifurcation. As is my rule of practice, I also tied the superior thyreoid artery about a quarter of an inch beyond its origin. Antiseptic dressing, a bone drain, and silk sutures were used. I then excised the epithelioma, cutting well away from the margin of the disease. The patient recovered without hæmorrhage or any unfavorable symptoms, and on the 31st, twenty-one days after the operation, he left the city for his home.

Case II.—P. H. W., American, thirty-seven years old, a journalist, married, came to me, through the kindness of the late Professor Frank H. Hamilton, on June 26, 1886. He had for years been a confirmed smoker of cigars and cigarettes, and, fifteen months before I saw him, a painful ulcer had appeared on the lower surface of the left side of the tongue, near the tip, just where the end of the cigar rested while he held it between his teeth and lips. When I examined him, the anterior portion of the tongue was indurated and swollen in part and in part occupied by the characteristic ulcer of epithelioma. The posterior limit of the induration crossed the tongue obliquely, being about an inch from the tip on the right side and two inches along the left border. The glands of the left side of the neck were infiltrated. On the 29th, the patient being anæsthetized with ether, I dissected out the glands of the neck (left side) and tied the external carotid a quarter of an inch above the bifurcation of the primitive trunk. The superior thyreoid was also tied. Catgut ligatures were employed, also a bone drain and catgut sutures. I then extirpated the tongue and floor of the mouth. The organ was divided an inch behind the line of induration. The patient recovered without a bad symptom and is now (eight months after the operation) free from all evidence of epithelioma and in active business.

Cases III and IV.—Z. M., forty-seven years old, housewife, a native of Italy, came under observation on June 14, 1886, having been sent to my clinic at the Polyclinic by the kindness of Dr. Abruzzo, of this city. Sixteen months before this date, following the cessation of her menstrual flow, she noticed that the parotid gland of each side was enlarged. The swelling of these organs continued, the mouth became dry from lack of saliva, and deglutition was difficult. Up to the time of the appearance of the tumors of the parotid the health of the patient had been good.

On her admission into Mt. Sinai Hospital, the tumors were of about equal size, extending from the upper level of the ear to the level of the chin. A diagnosis of bilateral sarcoma was made. The patient was told that an operation would very probably not effect a cure, and that facial paralysis would result. She insisted upon an attempt to give her even temporary relief. On June 14th I tied the right external carotid, between the lingual and the bifurcation of the primitive trunk, preliminary to the removal of the neoplasm. The superior thyreoid was then tied. The hæmorrhage during the dissection was insignificant. The wound healed quickly, and on September 21st the second operation was performed. On account of the extension of the tumor down the neck, I had great difficulty in getting at the external carotid, which was entirely overlapped by the new growth and was pressed deep into the neck. The bleeding was so troublesome that I threw a temporary loop of catgut around the common trunk, an inch below the bifurcation, which controlled the hæmorrhage until I passed the ligature around the external trunk. After removing the neoplasm, I found the ligature had been applied on a level with the crotch of bifurcation. This was nearer the primitive trunk than I had intended, but when it was applied I could not see the exact location of the ligature on account of the tumor. It was left in this position, and the superior thyreoid was also secured. No bleeding occurred, and the patient recovered and left the hospital on March 9th. This is probably the only case on record in which the ligature was applied so low, and it well demonstrates the safety and efficiency of the catgut. The microscopical examination of one of the neoplasms proved it to be a round-cell sarcoma.



Case V.—In this case the common and external carotid artery and the superior thyreoid branch were tied for aneurysm of the internal carotid. The internal trunk was affected with atheroma to such an extent that the ligature could not be applied to this vessel. The operation was done on July 24, 1883. The tumor rapidly diminished in size, the patient leaving the hospital on the twenty-third day after the operation. She is now living and well.

Dr. Markoe asked regarding the cause of the aneurysm of the internal carotid artery, mentioned in the last case. The reader replied that it was due to atheromatous degeneration of the artery.

Dr. Sands remarked that Dr. Guyon, a French surgeon, had been one of the first to prove that the arguments against the safety of tying the external carotid were unsound. He showed, in a paper written in 1863, that there was very slight danger to be apprehended from secondary hæmorrhage. The cases then on record, as well as some additional ones, were tabulated by the late Dr. Longworth, of Cincinnati (a former pupil of Dr. Sands's), in a paper published in 1873. In this paper the operation referred to was strongly advocated. The speaker added that he had tied the external carotid three times, the first case being that of a man who had extensive epithelioma of the face. Chloride-of-zinc paste was applied, and caused such deep sloughing that a large vessel was opened behind the jaw, and such profuse hæmorrhage resulted that it was necessary to ligate the external carotid. No anæsthetic was employed, as the patient was extremely feeble. In the second case he removed a tumor of the lower jaw, and had to contend with very severe hæmorrhage, which was found to be due to an accidental wound of the internal jugular vein and to the excision of a piece of the external carotid artery. In the third case the artery was tied on account of an aneurysm about half as large as a hen's egg, which was supposed to involve the posterior auricular artery. The operation was performed five years ago, and, although the patient recovered, he was not completely cured; the tumor became smaller, but continued to pulsate. The practice of tying the external carotid as a preliminary step to the removal of a tumor of the tongue was certainly different from that usually followed, which was to tie the lingual artery *in loco*. The latter seemed to serve the purpose equally well, while the surgeon could usually avoid the placing of a ligature on the vessel close to its point of origin. Removal of the parotid gland would seem to be a formidable operation as regarded hæmorrhage, but the speaker was not aware of any death from this cause; it was better, he believed, in this operation to tie the external carotid artery, when necessary, as near to the tumor as possible—that is, at a distance from its origin. In general, he would always prefer to ligate the external rather than the common carotid.

Dr. Stimson said that he had tied the external carotid once for epithelioma involving the side of the face. The operation was successful, but the patient succumbed to the disease. In regard to ligature of the artery as a preliminary to the removal of tumors of the parotid, the speaker thought, with Dr. Sands, that it was practicable to secure the vessel higher up, behind the angle of the jaw. In one case he had been able to remove nearly the entire gland without cutting the artery. Dr. Wyeth's last case suggested the interesting and important question whether it might not be proper to place a catgut ligature on an atheromatous artery, meaning by the latter term a vessel the walls of which were softened but not calcified. Could it not be safely tied with catgut? There would, of course, be a greater chance of the subsequent formation of an aneurysm near the ligature, but might it not be reasonably expected that secondary hæmorrhage would not occur? When we remembered how much more rapidly and perfectly tissue healed under our present antiseptic methods, why could we not venture to tie even an atheromatous artery in the continuity?

Dr. Sands said that he had once assisted Dr. Lange in the amputation of a thigh in an old man. Dr. Lange thought that perhaps he might apply the dressings before removing the tourniquet, but he determined not to do so, and, on loosening the latter, profuse hæmorrhage occurred, which was found to be due to the fact that the ligature placed on the principal artery of the limb had cut through in consequence of the vessel being atheromatous. The speaker himself had amputated a leg for senile gangrene, the arteries of which were so rigid from calcareous degeneration that they did not pulsate; but, on removing the tourniquet, there was free hæmorrhage. The vessels were tied with catgut, and the patient did perfectly well. The speaker agreed with Dr. Stimson that the danger of tying atheromatous vessels had been much lessened since the treatment of wounds had become more perfect. He would say that it was not unsafe to apply a ligature to such an artery unless the latter was so soft and friable that it would cut through. In Dr. Wyeth's case there would have been no use in tying the internal carotid, as it was so extensively diseased. Simultaneous ligation of the external and the common carotids for aneurysm of the internal carotid produced practically the same effect as the application of a distal ligature.

Dr. Markoe said that he recalled a unique case, which had become historical, and which threw light upon the subject under discussion. In October, 1845, Dr. J. K. Rodgers tied the left subclavian in the first part of its course, about an inch from its point of origin from the aorta. The patient lived fifteen days, and died from secondary hæmorrhage from the distal part of the artery. The autopsy showed that the ligature had passed directly through an atheromatous plate, yet the artery on its proximal side was firmly plugged, and the usual changes after ligature had occurred normally, and had effectually closed the artery. Shortly before the operation, Dr. Hoffman had exposed the innominate artery in a case of aneurysm with the intention of tying it, but had refrained from applying the ligature, because the vessel was atheromatous. The patient subsequently died of hæmorrhage from the aneurysm; probably, if the artery had been tied, no bad result would have followed, even though it was diseased.

Dr. Weir said that he had applied catgut ligatures to calcified arteries in two cases of amputation for senile gangrene. It had been shown by English authorities that there was no danger in ligating such vessels, provided the ligature was not tied too tight.

The President thought that Dr. Wyeth had acted wisely in tying the external carotid first, because, if the ligature had been applied first to the atheromatous internal carotid, it would have cut off the possible chance of obtaining a successful result after subsequent ligature of the external carotid.

Dr. Markoe asked the reader if he found the point of origin of the internal carotid.

Dr. Wyeth replied in the affirmative, adding, in response to a question from Dr. Sands, that the diseased vessel was of larger caliber than normal, having undergone a sort of general fusiform dilatation.

The President asked if it had been easy to identify the external carotid. The reader answered that he had experienced no difficulty, after finding the bifurcation, at the upper border of the ala of the thyreoid.

Dr. Markoe said that he had tied the internal carotid, together with the common carotid, three times, and had found the artery without difficulty.

Dr. Wyeth remarked, in closing, that the cases which Dr. Sands had said were published by Guyon, had nearly all been reported by Maisonneuve. Several papers on the same subject had appeared previous to the one published by Longworth. The reader did not wish to be understood as recommending ligature of the external carotid as a preliminary measure in all cases of excision of the tongue for cancer. He himself generally tied the lingual artery, but in the case described the muscles and floor of the mouth were so much involved that it was necessary to remove them extensively, and the hæmorrhage could only be controlled by placing a ligature on the main artery. Neither would he tie the external carotid before removing an ordinary parotid tumor. The two growths to which he had referred in his paper were unusually large; on one side the artery was tied first, but on the other the tumor was dissected out rapidly, the vessel being ligated as soon as it was reached. He had ligated an atheromatous artery in a case of amputation of the thigh, and no hæmorrhage had occurred. In the case described he would not have tied the atheromatous internal carotid, even if he had believed that there was no danger in so doing, because he could accomplish the object desired by placing the ligatures on the sound arteries.

Operation for the Cure of Prolapsus Ani.—Dr. Lange presented a patient upon whom he had performed the operation which he had described at the previous meeting. He desired to modify the statement which he had made with regard to the condition of the patient, as the latter had become worse during the past few weeks. There was no return of the prolapse, but the patient did not have perfect retention, so that fæcal matter was discharged while he was walking. The action of the sphincter and levator ani was pretty good, but it was not perfect. The case in question had been a very obstinate one. Future developments would show if the operation was to possess any lasting value. The speaker called attention to the fact that the anal ridge was situated deeper (nearer to the middle of the body) than normally, and that the posterior anal commissure was carried forward—a change probably due to contraction of the levator ani. In reply to a question from Dr. Sands, as to whether the cure might not be made more complete by contracting the anal aperture still further, the speaker said that the prolapse was already cured, but that the patient had not acquired sufficient control over his bowels. The orifice might be narrowed, as suggested, since the muscular action alone was not enough to cause perfect closure. He feared that an attempt to contract the aperture by excising the mucous membrane alone would not produce lasting results; this had been tried several times before. He intended to use cold-water injections and electricity, with a view to stimulating the parts to contract.

Sarcoma of the Pharynx removed by Partial Exsection and Dislocation of the Inferior Maxilla.—Dr. Lange showed a patient from whom he had removed a tumor that had occupied the left half of the pharynx, extending upward behind the soft palate, and down the throat so far as to dislocate the larynx. Following Miculicz, he performed preliminary tracheotomy, and then made an incision along the inner border of the sternomastoid muscle, and a horizontal incision along the border of the zygomatic arch, so as to expose the angle of the jaw, which was removed subperiosteally, so as to give access to the tumor. The operation was long and tedious. The patient had intense iodoform poisoning, being at first greatly excited, and then speechless for fourteen days. He was fed by means of a stomach-tube, which he one day swallowed, through the carelessness of a nurse. After being retained for five weeks, the tube (which was eighteen inches and a half long) was passed *per rectum.* The patient finally recovered, with paralysis of the lip on the side of the wound, but there was no displacement of the teeth, and his power of mastication was as good as ever. The operation was performed on the 28th of September.

In reply to a question from the president, Dr. Lange said that all that portion of the angle of the jaw which corresponded to the insertion of the masseter muscle had been removed, and that the jaw had then been dislocated, so as to afford a view of the interior of the pharynx; but, in spite of this, he did not obtain a clear idea of the connections of the tumor, and was obliged to scrape it out piecemeal, so that the operation was not so thorough as he had desired. The growth was of about the size of a goose's egg, so that it interfered with deglutition, and was beginning to cause dyspnœa. It had no bony attachments, and was encapsulated, but broke down readily, so that it was impossible to remove it entire; it was also quite vascular. Microscopically, it presented the appearances of a mixed round- and spindle-celled sarcoma.

Dr. Weir asked if it would not have been possible to reach the tumor by Kocher's method through the nose.

Dr. Lange replied that there would not have been sufficient room.

Dr. Sands said that Busch had described a variety of fibrosarcoma of the pharynx that was neither very vascular nor firmly attached. He had had a similar case several years before. Supposing that there would be profuse hæmorrhage on removing it, he introduced a Trendelenburg's tube, but it was not needed, as there was but little bleeding. As soon as the capsule of the tumor was divided, it could be shelled out easily; it seemed to spring from the connective tissue.

Dr. Lange said that the tumor which he had described extended high up behind the soft palate, and was very vascular.

Renal Calculus removed Post Mortem from a Pyonephrotic Kidney.—Dr. Lange remarked that he had exhibited at the previous meeting a renal calculus removed by nephrotomy from a woman, who was reported as doing well five days after the operation. Her condition changed suddenly for the worse. An examination of the other kidney showed that it was enlarged. Fourteen days after the operation the patient had a chill, followed by septic symptoms. The kidney was punctured with a needle, and pus was found, while a calculus could be felt. After refusing for five days to allow an operation to be performed, she finally consented. The pelvis of the kidney was found to be dilated and filled with extremely offensive pus, and the specimen shown was also found in it. The patient had complete suppression of urine before her death, which occurred six days later from septicæmia. Within the pelvis of the kidney which was first incised [the specimen was shown] were found numerous fragments of calculi, some of which resembled the processes on the original stone. The septic poisoning was due to the numerous abscesses in the opposite kidney. The patient would have been seriously ill, even if she had survived the second operation, although, if it had been done at the proper time, the result might have been different.

Spindle-shaped Needles for Use in Laparotomy.—Dr. Lange showed some curved needles which he had devised for sewing the abdominal wound. They were of a fusiform shape near the point, the eye being situated near the largest part of the needle. There was a small indentation in the beak, so that, if caught by the needle-holder, the point would not be spoiled.

Book Notices.

Oxygen in Therapeutics. By C. E. Ehinger, M. D. Illustrated. Chicago: W. A. Chatterton & Co., 1887. Pp. 157. [Price, $1.]

The use of artificial oxygen as a remedy in disease is not new. Ever since its isolation in 1774 there have been spasmodic efforts to make it a panacea. Hill, Beddoes, and other early experimenters indulged the enthusiastic hope that in it they had disclosed the philosopher's stone, or at least the one great remedy. But Beddoes at last acknowledged himself discouraged, not by loss of faith in the remedy, but on account of professional opposition and the difficulty of making it generally available. In 1858 Dr. Birch, of the Manchester (England) Medical School, published a thin volume ("On Oxygen," London, 1858), reviving the former estimate as to its great value in chronic ailments. Since that date French, English, German, and even Russian investigators have given this agent more or less attention, and more recently this country has added her mite to the sum-total of clinical research. The literature of the subject is, however, very scanty.

While we give the author of this book credit for apparent candor, as well as unusual modesty, and while there is no doubt a very respectable audience ready to be enlightened on the therapeutic value of oxygen, we are sorry to note a careless use of scientific terms and a palpably inaccurate statement of chemical data. For example, he confounds the terms "sulphate of iron," "ferrous sulphate," and "copperas." He also gives the fusing and decomposing temperatures of ammonium nitrate as 226° and 329° F., respectively, whereas standard authorities on chemistry place the fusing point at the latter figure, and the evolution of the salt into gas at 365° to 400° F., the "Encyclopædia Britannica" (ninth edition) making it even much higher —viz., 200° to 250° C., which is equivalent to 392° and 482° F.

Considered from a practical standpoint, the descriptions of processes and clinical reports in the volume, while quite interesting and suggestive, yet lack definiteness and intelligible system. If oxygen is to be ranged with other valued and reliable therapeutic agencies it must be studied with more system, less after the haphazard universal dosage methods of the professional charlatans. Dr. Ehinger does not advocate the use of unmixed and undiluted oxygen; therefore he should not have failed to state exactly what dilution or admixture and what quantity were exhibited in a given case. He should then carefully have traced its effects on the temperature, the circulation, the secretions and excretions, the muscular and nervous systems, the appetite, assimilation, and nutrition. Rational deductions from carefully gathered data of this character will undoubtedly command that attention which is always accorded to painstaking method.

The cuts used to illustrate the text are, in these days of cheap engraving, conspicuously inferior as well as misleading. Simpler and better forms of apparatus than those shown are in vogue; and the one represented on p. 14, except for temporary experiments or the meeting of occasional emergencies, is comparatively worthless, since it has no storage capacity and requires the gas to be used as fast as it is evolved. All authorities agree that the gas should stand for some hours over water before it is in prime condition for inhalation.

Notwithstanding the liberal use of quotation-marks, their occasional omission is noticeable. In several instances reports of cases are quoted verbatim from papers published several years since by other observers. From the frequency of purely typographical blunders, which ought not to have escaped modern proof-reading scrutiny, it is easy to believe that these omissions were not intended by the author.

In spite of its minor shortcomings, the volume fills a certain gap in medical literature. It seems to us a trifle premature, which is but another term for immature; and it is to be hoped its appearance will not deter some of those whose writings our author has so liberally cited from giving us ere long a still more satisfactory, because more mature and original volume.

BOOKS AND PAMPHLETS RECEIVED.

On Fevers: their History, Ætiology, Diagnosis, Prognosis, and Treatment. By Alexander Collie, M. D. (Aberd.), Member of the Royal College of Physicians of London, etc. With Colored Plates. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. viii–288. [Price, $2.50.]

Refraction of the Eye; its Diagnosis and the Correction of its Errors. By A. Stanford Morton, M. B., F. R. C. S. (Ed.), Surgeon of the Royal South London Ophthalmic Hospital, etc. Third Edition. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. viii–67. [Price, $1.]

Researches into the Ætiology of Dengue. By J. W. McLaughlin, M. D., of Austin, Texas. [Reprinted from the "Journal of the American Medical Association."]

On the Treatment of Laceration of the Cervix Uteri, with Histories of Twenty-six Original Cases. By F. E. Beckwith, M. D., New Haven, Clinical Professor of Gynæcology in the Medical Department of Yale College. [From the "Proceedings of the Connecticut Medical Society," 1886.]

Transactions of the American Ophthalmological Society. Twenty-second Annual Meeting, New London, Conn., 1886.

Report of the Board of Trustees of the Eastern Michigan Asylum, at Pontiac, for the Biennial Period ending September 30, 1886.

Eighteenth Annual Report and By-Laws of the New York Physicians' Mutual Aid Association.

Hand-book of Materia Medica, Pharmacy, and Therapeutics, including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Extemporaneous Pharmacy, and Minute Directions for Prescription Writing. By Samuel O. L. Potter, M. A., M. D., Professor of the Theory and Practice of Medicine in the Cooper Medical College of San Francisco, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xx–17 to 828. [Price, $3.]

Transactions of the Massachusetts Medico-legal Society. Volume I, No. 9, 1886.

Contributions to Science and Bibliographical Résumé of the Writings of R. W. Shufeldt, M. D., Captain, Medical Department, U. S. Army.

Address on the Duties and Conduct of Nurses in Private Nursing. Delivered at the Boston Training School for Nurses, June 18, 1886. By William L. Richardson, M. D., Visiting Physician of the Massachusetts General Hospital.

A Case of Pyelitis of Nineteen Years' Duration Caused by a Renal Calculus; Recovery. By Augustus V. Park, M. D., of Chicago. [Reprinted from the "Journal of the American Medical Association."]

Miscellany.

Medical Bulletins.—A correspondent who signs himself "Taverner" says in the "Boston Post" for March 9th: "I think that the medical profession, which is commonly punctilious to a fault, might take some steps to discourage the growing practice of issuing technical bulletins in regard to the patient's condition whenever any prominent person lies dangerously ill. It is, of course, highly proper that the public should be informed from time to time whether the sufferer is better or worse, and if death is imminent. But these facts might be stated very briefly, without going into particulars. Further and more detailed statements are, with very few exceptions, mere concessions to morbid curiosity, and should be avoided as being demoralizing to the public, undignified on the part of the physician who makes them, and, what is of still more consequence, inconsistent with the respect which should be paid to the sick man and to his family. The vulgar custom of making the doctor's bulletin, intended for the general public, just such statements as would be submitted to a professional man whose advice was sought on the facts given, began when President Garfield was shot, and I have observed that it has been practiced ever since, whenever there was any excuse or shadow of excuse for doing so. In the recent case, which has suggested these remarks, there was nothing in the bulletins issued that was offensive, as there has been in many previous cases, but there was much that was extremely superfluous, entirely technical and out of place. Let the medical societies look to the matter."

The New York Academy of Medicine.—At the meeting of the Section in Ophthalmology and Otology, Monday evening, the 21st inst., Dr. D. B. St. John Roosa will read a paper entitled "Clinical Observations upon Diseases of the Mastoid Process, with a Sketch of the History of the Operation for their Relief."

At the meeting of the Section in Laryngology and Rhinology, Wednesday evening, the 23d inst., Dr. H. Holbrook Curtis will read a paper entitled "A Nasal Trephine and its Advantages, with a Consideration of Batteries and Electrical Apparatus used in Nasal Surgery; with Practical Demonstrations."

At the meeting of the Section in Obstetrics and Diseases of Women and Children, Thursday evening, the 24th inst., Dr. Hubbard W. Mitchell will read a paper entitled "Surgical Treatment of Laceration of the Cervix"; Dr. S. D. Powell and Dr. W. Gill Wylie will report cases of tubal gestation, and present the specimens; Dr. J. West Roosevelt will present a specimen; and Dr. Robert A. Murray will report a case of rupture of the uterus, and show the specimen.

At the meeting of the Section in Materia Medica and Therapeutics, Friday evening, the 25th inst., Dr. George Dalton Hays will read a paper on "The Management of Fæcal Retention."

The Practice of Medicine by Apothecaries in Pennsylvania.—The following letter, dated February 28th, and signed by the president of the Philadelphia County Medical Society, Dr. J. Solis-Cohen, and its secretary, Dr. S. Solis-Cohen, has been sent to the Governor of Pennsylvania and to the Philadelphia members of the Legislature:

"At a meeting of the Philadelphia County Medical Society, held February 23, 1887, it was resolved to address to the Senators and Representatives from Philadelphia County, and to the Governor of the Commonwealth, a communication signed by the president and recording secretary of the society, requesting them to oppose and to disapprove of the passage of Section 10 of the proposed Pharmacy Law now pending before the Legislature of Pennsylvania. This section so far repeals the Registration Act as to permit druggists to engage in the practice of medicine, provided that they conduct only an office practice. We respectfully urge that this proposition is unworthy of your approval and support for many reasons, but, above all, because of the danger to which it exposes the lives of individuals and the health of the community. Sometimes the most serious and fatally tending diseases do not confine the patient to bed, and, until the end is near at hand, are manifested by symptoms which, to an untrained and inexperienced person, would suggest but a trifling ailment. In these cases, as in the incipiency of typhoid fever, small-pox, and other infectious and contagious diseases, it is highly important both to the individual and to the community that the true nature of the affection shall be recognized at the earliest possible moment. Even did the course of studies pursued by graduates of our excellent colleges of pharmacy include (as it does not) a thorough training in the knowledge of the action of drugs upon the human economy, and in the practical application of that knowledge in the treatment of disease, it most certainly does not afford instruction in the recognition of disease, or in the discrimination between different diseases, one of the most important features of a physician's practical training. The manufacturer of the compass and the sextant is not necessarily a skilled navigator, yet it would be as wise to intrust to him the management of an ocean voyage, or to the manufacturer of rifles the command of an army in battle, as to intrust to the maker of pills and tinctures, however highly educated and skillful in his own honorable and useful profession, the duties and responsibilities which should be assumed only by the educated physician."

Substitution by Druggists.—In an editorial article, the "St. Louis Medical and Surgical Journal" says:

"There was a time when there was no intermediary between the physician and his patient—when every doctor dispensed his own medicines. In cities and closely settled communities this practice gradually became burdensome, and was relegated to a special class, the druggists or pharmacists; but the old-time custom is still adhered to very largely among rural or country physicians. When the 'patent-medicine man' made his appearance, this agent or intermediary of the physician promptly assumed the same position toward the intruder, and united to his honorable calling of pharmacist the less honest but probably more profitable one of vender of nostrums. This anomaly would have adjusted itself in time, and, indeed, has already partially done so, but the druggist has been deflected from the straight and narrow path. Aiding a fraud, what more natural than that he should, in certain instances, become imbued with the spirit of fraud? Seeing the gullibility of the public, and knowing the profits accruing from the trade in nostrums, the less honest and more avaricious members of the guild were thenceforth but ill content with the comparatively meager profits of their honorable and legitimate calling. The outgrowth of this spirit was the crying evil of substitution—the replacement of high-priced ingredients in prescriptions by others less costly and totally inefficacious. There is scarcely a physician in our cities and towns who has not at some time had good reason to complain of this evil. Of late the rascally practice has taken a wider range, in a direction made possible by the legitimate advances of the art of pharmacy. We refer to substitution as applied to those products of chemical and pharmaceutical skill, aided by abundant capital, known as 'proprietary preparations'—preparations the nature and ingredients of which are made known to the medical profession, for whose use alone they are manufactured, and which are by no means to be classed or confounded with 'patent medicines.' Many of these proprietary medicines are of great value commercially, and as a result they are composed of the purest drugs compounded with great skill. A certain proportion of the medical profession (and some of them men of wide and honorable reputations) have found these preparations good and useful, and their exhibition attended by most satisfactory results, and hence have prescribed them largely, *not the least potent reason for this fact being the feeling of security against substitution induced by the careful and often costly methods of package adopted by the manufacturing chemists.* But as 'love laughs at locksmiths,' so laughs the substituting druggist at seals and wrappers of unique design, at signatures and brands; and the manufacturing chemist who spends thousands and hundreds of thousands of dollars in keeping up the standard of his preparations, finds himself suddenly accused of allowing them to deteriorate, or possibly of sophisticating them for greater gain. Without referring to them by name, we may say that very recently a number of the great manufacturing houses have found themselves in this unpleasant position, and, in every instance where investigation was possible, the fact was disclosed that the apparent deterioration was due to the dishonesty of the retail druggist or prescriptionist, who had substituted his own worthless compounds for those ordered by the physician. Such substitution is not simply dishonest, it is felonious, and displays the same reckless disregard for life that marks the burglar or highwayman, who is prepared to take a life if it stands in the way of his plunder. The man who does it does not simply filch a few cents from the pocket of his customer (frequently poor and needy), nor does he merely jeopardize the reputation of a physician, but he puts in peril the life of the customer who trusts him. The honest members of an honorable profession—and fortunately they are largely in the majority—the reputable pharmacists, owe it to themselves to expose these vultures and drive them from the trade. In doing so they should have the aid and countenance of every physician. In the mean time, let every physician not content himself with shunning the shops of those whom he detects in the nefarious habit of substitution, but boldly denounce them, and warn his patients against carrying prescriptions to them. Concerted action of this sort will soon purge the trade of the offending members."

Hypodermic Injections of Listerine.—Dr. F. A. Rew, of Portia, Ark. ("Med. Bulletin"), says: "It seems strange that at this late day any observing physician should need to be told how to use listerine. There is, however, one mode of its administration to which attention may yet be called. I allude to its hypodermic administration. Keeping in view the fact that it is antiseptic, tonic, non-toxic, its use is indicated in all cases of too rapid retrograde metamorphosis, or of deficiency (or perversion) of vital force. During the past four years I have proved this to my complete satisfaction. For the past four months this section has been scourged with a severe epidemic of dysentery and cholera infantum. I have used listerine, wherever indicated, by the mouth, by rectal injection, and hypodermically, and the latter method has always yielded the best results. One case from many similar ones in my call-book will illustrate: Jessie ——, aged six months, suffering with cholera infantum three weeks, has taken many large doses of calomel, quinine, soothing-syrup, etc.; is much emaciated; the dejections have an exceedingly bad smell. Surface cold and clammy, pulse rapid and very weak, stomach very irritable; can not retain the listerine, no matter how much diluted; rectal injections do only temporary good. I apply external warmth, give hypodermically a half-drachm of a 50-per-cent. solution of listerine in rose-water; in an hour word comes that the baby is better; in six hours I repeat the injection; in twelve hours the change for the better is so decided that I can give the remedy by the mouth, diluted with breast-milk. It was made as strong as the child could take it. With this and good nourishment and care the baby rapidly convalesced. In dysentery, typho-malarial fever, chronic 'chills,' phthisis, etc., whenever the pulse is rapid and weak, where a vital tonic and antiseptic is indicated, I have always used it hypodermically with positive good results. Given a case where Nature seems to be overcome by a poison which she can not eliminate with sufficient rapidity, give listerine hypodermically; if needed, aid or stimulate the kidneys, bowels, or skin, and the listerine will soon manifest its power in a very positive manner."

The Health of Boston.—During the week ending Saturday, March 12th, there were reported to the Board of Health 17 cases of diphtheria and 4 deaths; 14 cases of scarlet fever and 1 death; 5 cases of typhoid fever and 3 deaths; 63 cases of measles and 3 deaths. There were also 30 deaths from consumption, 16 from pneumonia, 12 from heart disease, 10 from bronchitis, and 3 from marasmus. The total number of deaths reported was 172, which was an increase of three over the corresponding week of last year.

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending March 10th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending February 19th corresponded to an annual death rate of 21·1 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest death rate was recorded in Derby, viz., 17·2, and the highest in Preston, viz., 29·6 in a thousand. There were 129,746 deaths registered in England and Wales during the quarter ending December 31, 1886, corresponding to an annual rate of mortality of 18·5 in a thousand.

London.—One thousand five hundred and sixty deaths were registered during the week ending February 19th, including 35 from measles, 13 from scarlet fever, 15 from diphtheria, 41 from whooping-cough, 6 from enteric fever, and 14 from diarrhœa and dysentery. There were 392 deaths from diseases of the respiratory organs. Different forms of violence caused 66 deaths. In greater London, 1,981 deaths were registered, corresponding to an annual death rate of 19·1 in a thousand of population. There were 82,257 deaths registered during the year 1886, corresponding to an annual death rate of 19·8 in a thousand inhabitants.

Ireland.—The average annual death rate represented by the deaths registered during the week ending February 19th, in the sixteen principal town districts of Ireland, was 31·2 in a thousand of population. The lowest rate was recorded in Kilkenny, viz., 8·5, and the highest in Limerick, viz., 37·8 in a thousand. During the week ending February 12th the deaths registered corresponded to an annual rate of 25·2 in a thousand. The lowest rate was recorded in Sligo and Lisburne, viz., 4·8, and the highest in Drogheda, viz., 46·5 in a thousand.

Dublin.—Two hundred and thirty-nine deaths were registered during the week ending February 19th, including 15 from zymotic diseases. In thirty-three instances the cause of death was uncertified, there having been no medical attendant during the last illness. The deaths from all causes corresponded to an annual rate of 35·3 in a thousand. During the week ending February 12th there were 185 deaths, including 18 from zymotic diseases. In 23 instances the cause of death was uncertified, there having been no medical attendant during the last illness. The annual death rate from all causes was 27·3 in a thousand. Nine thousand four hundred and ninety-one deaths were registered in the Dublin registration districts during the year 1886, corresponding to an annual death rate of 26·9 in a thousand of population, as against an average of 29·5 in a thousand for the preceding ten years. In the year 1885 the death rate was 28·4 in a thousand. No deaths from small-pox were registered during the year 1886, nor were there any cases of the disease treated in the Dublin hospitals. Two deaths in the second quarter of 1885 are the only cases of small-pox recorded in the districts since the month of May, 1881.

Scotland.—The death rate in eight principal towns during the week ending February 19th was 24·3 in a thousand of the aggregate population, which is estimated at 1,283,977. The lowest mortality was recorded in Greenock, viz., 13·7, and the highest in Paisley, viz., 28·2 in a thousand. The deaths of 18,288 persons were registered in Scotland during the quarter ending December 31, 1886, corresponding to an annual death rate of 184 for every ten thousand of the estimated population, or 18·4 in a thousand.

Germany.—The deaths registered in fifty cities of Germany, having an aggregate population of 6,661,838, during the week ending February 5th, corresponded to an annual death rate of 24·2 in a thousand. The lowest rate was recorded in Mayence, viz., 11·1, and the highest in Posen, viz., 35·3 in a thousand.

Calcutta.—Five hundred and nine deaths were registered during the two weeks ending January 15th, including 38 from cholera, 141 from fevers, 84 from bowel complaints, 50 from tetanus, and 31 from asthma.

Para.—Ninety-five deaths were registered for the two weeks ending February 13th, including 6 from yellow fever and 1 from typhus fever.

Havana.—One hundred and two deaths were registered during the week ending February 24th, including 2 from yellow fever. Four cases of small-pox were reported, but no deaths.

Bahia.—Two cases of yellow fever from on board ship were reported during the week ending February 5th. They were isolated at once.

Santiago de Cuba.—The United States consul, in his report for the month of January, states that, notwithstanding press reports to the contrary, the port has been unusually healthy. Only 1 death from yellow fever was recorded during the month, and only 2 deaths occurred in the military hospital, outside the town limits.

Catania.—The United States consul, under date of February 28th, reports by cable, "Cholera, Catania: 15 cases, 9 deaths."

Buenos Ayres.—The United States consul, in his dispatch dated January 7, 1887, states that "cholera still exists in this city, but it makes but little progress in assuming an epidemic form. The average number of cases a day since my last dispatch (December 6th) has not exceeded 22. The greatest number of reported cases in one day occurred on the 30th ultimo, when the number reached 57, since which time it has steadily declined, and on yesterday the number was only 11 in the city, with its population of 400,000 souls." He incloses a clipping from the Buenos Ayres "Standard," from which it is learned that during the months of November and December there were 871 cases of cholera, and 474 deaths from that disease. The consul also states that "the disease has scarcely made its appearance except in closely packed tenement-houses (conventillos) of the lower classes and in the suburbs, which are without pipe and hydrant water. In the interior of the Argentine Republic, however, the disease has assumed the proportions of an epidemic. In Rosario, during the last month, the daily number of cases averaged 60 to 100, while about 70 per cent. were fatal. In Mendoza the development of the disease has been most remarkable, and the population of that city of 20,000 has been almost decimated; and in the country districts the disease was equally fatal. In Tucuman the number of cases has on some days been as high as 500, of which about one half proved fatal. Indeed, the panic at one time was so great that it was not possible to obtain the requisite assistance to bury the dead. In nearly all the other interior cities the disease has been very virulent and fatal, but, not confining itself to centers of population, it has ravaged entire provinces, and farmers (estancierros) and camp men have in great numbers succumbed to it. I am happy to say that with medical assistance, disinfectants, medicines, and a large supply of good nurses, the disease seems to have greatly abated during the last two weeks, and the hope is entertained that it will soon have run its course."

Rome.—One hundred and seventy-nine deaths were registered during the week ending January 8th, including 11 from small-pox, 1 from enteric fever, and 2 from diphtheria.

Warsaw.—Two hundred and two deaths were registered during the week ending February 12th, including 9 from small-pox.

San Juan del Norte.—Two cases of small-pox were reported during the week ending January 10th.

Amsterdam.—One hundred and seventy-one deaths were registered during the week ending February 19th, including 2 from scarlet fever and 6 from diphtheria.

Copenhagen.—One hundred and thirty-three deaths were registered during the week ending February 8th, including 1 from enteric fever and 5 from diphtheria.

Mayence.—Fourteen deaths were registered during the week ending February 5th, including 1 from typhus fever and 1 from diphtheria.

Palermo.—One hundred and sixteen deaths were registered during the week ending February 19th, including 3 from enteric fever, 3 from scarlet fever, and 9 from diphtheria.

Leipsic.—Seventy-nine deaths were registered during the week ending February 19th, including 3 from diphtheria, 7 from dysentery, and 2 suicides.

Stuttgart.—Thirty-two deaths were registered during the week ending February 19th, including 1 from typhus fever and 2 from diphtheria.

Trieste.—Ninety-eight deaths were registered during the week ending February 12th, including 2 from diphtheria.

Munich.—One hundred and forty-one deaths were registered during the week ending February 12th, including 4 from diphtheria.

Edinburgh.—One hundred and seven deaths were registered during the week ending February 12th, including 1 from enteric fever, 7 from scarlet fever, and 3 from diphtheria.

Glasgow.—Two hundred and seventy-two deaths were registered during the week ending February 19th, including 5 from scarlet fever and 3 from diphtheria.

Toronto.—Twenty-one deaths were registered during the week ending February 26th, including 1 from enteric fever and 1 from diphtheria.

Honolulu.—Seventy-two deaths were registered during the month of January, including 11 from "fever," 2 from enteric fever, and 1 from leprosy. The deaths from all causes were equal to an annual rate of 39·2 in a thousand of population.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Estimated population.	Week ending—	Total deaths from all causes.	Annual rate of mortality in 1,000.
Calcutta	433,219	January 8.	261	31·4
Calcutta	433,219	January 15.	248	29·8
Para	70,000	February 6.	44	32·7
Para	70,000	February 13.	51	37·9
Havana	208,000	February 24.	102	25·5
Rome	364,511	January 8.	179	25·6
Warsaw	431,572	February 12.	202	24·4
Amsterdam	378,969	February 19.	171	23·5
Copenhagen	289,000	February 8.	133	23·9
Mayence	65,701	February 5.	14	11·1
Palermo	250,000	February 19.	116	24·1
Leipsic	170,000	February 19.	79	24·2
Stuttgart	125,510	February 19.	32	13·2
Trieste	150,157	February 12.	98	34·0
Munich	269,000	February 12.	141	27·3
Edinburgh	258,629	February 12.	107	21·5
Glasgow	545,678	February 19.	272	25·9
Toronto	120,000	February 26.	21	9·1
Cadiz	65,028	February 12.	34	27·2
Matamoras	12,000	February 19.	6	26·0
Leith	72,297	February 12.	20	14·4
Belfast	224,422	February 19.	133	30·9
Bremen	119,000	February 12.	43	18·8
Mannheim	65,000	February 5.	19	15·2
Bristol	223,695	February 12.	94	21·9
Gibraltar	23,731	February 13.	22	48·3
Laguayra	7,428	February 19.	6	40·7
Acapulco	4,200	February 14.	2	24·7
Reims	97,903	February 19.	38	20·2
Havre	112,074	February 19.	65	30·2
Vera Cruz	23,800	February 24.	20	43·8
Pernambuco	111,000	February 9.	57	26·7
Leghorn	101,172	February 20.	60	30·9
Kingston, Canada	15,109	March 4.	1	3·4

The Minnesota Hospital College.—The sixth annual commencement exercises of the medical and dental departments were held on Friday evening, the 11th inst. Professor John E. Bradley delivered an address to the graduates.

The Health of Chicago.—According to the Health Department's "Condensed Statement of Mortality," for the month of February, the whole number of deaths was 1,170, including 4 from cholera infantum, 1 from cholera morbus, 113 from croup and diphtheria, 4 from diarrhœa, 1 from dysentery, 1 from entero-colitis, 8 from erysipelas, 23 from scarlet fever, 24 from typhoid fever, 5 from typho-malarial fever, 43 from measles, 1 from pyæmia, 2 from septicæmia, 2 from whooping-cough, and 1 from chicken-pox.

The Manhattan Eye and Ear Hospital and the Manhattan Hospital.—We are informed that the General Term of the Supreme Court has ordered that the Manhattan Hospital, in Manhattanville, formerly the Manhattan Dispensary, shall not use the name of Manhattan Hospital, because there is danger of confusion arising from the use of the two names, Manhattan Hospital and Manhattan Eye and Ear Hospital.

Packer's Tar Soap.—After trying any number of soaps, we have settled down on Packer's Tar Soap as the best of all, whether as a toilet or a surgical soap. It is remarkably pure, cleansing, and healing; it is excellent in a large variety of skin diseases, among which we particularly name seborrhœa of the scalp, dandruff, intertrigo, and winter prurigo—all of them very common and very obstinate. It contains the balsamic virtues of the pine in a high degree, and is soft and refreshing to the skin. It deserves a wide introduction.—*Medical and Surgical Reporter.*

THERAPEUTICAL NOTES.

An Experimental Study of Acetanilide (the so-called antifebrine) has been made by Dr. Weill, whose elaborate account is published in the "Bulletin général de thérapeutique," concluding substantially as follows: Acetanilide exerts a predominant influence on the nervous system, manifested by phenomena of collapse after a short period of excitement; generalized anæsthesia and analgesia; modifications of the cardiac and circulatory action ending in a notable increase of intravascular pressure and in peripheral vaso-constriction; and lowering of the central and peripheral temperature. In toxic doses, it profoundly modifies the normal elements of the blood, particularly the oxy-hæmoglobin, which it progressively reduces and finally changes into methæmoglobin; this results in a considerable diminution of the respiratory capacity and in disorders of the process that lead to death. The mechanism of its action seems to depend chiefly upon its direct influence on the bulbo-medullary cells. The author's therapeutical conclusions are as follows: Acetanilide is a powerful antithermic and a valuable nervine. In the first place, it is of great utility in almost all diseases where there is an indication to combat elevation of temperature. In the next place, it efficiently subdues morbid over-excitability in nervous diseases, and likewise acts well in epilepsy. Its prolonged and uninterrupted administration seems to cause the system to become habituated to it. The flow of urine is often diminished, sometimes unchanged, and never increased.

An Emmenagogue Powder.—"Nouveaux remèdes" attributes the following formula to Potain:

Powdered leaves of *Artemisia vulgaris*	45 grains;
Powdered *Achillea millefolium*	45 "
Powdered saffron	23 "

Mix, divide into five powders; one to be given daily for five days preceding the proper day for the flow, hot poultices being applied to the hypogastrium and the lower limbs. If the amenorrhœa is associated with chlorosis, quinine and iron should be given for the rest of the month.

Antasthmatic Cigarettes.—A writer in the "Union médicale" attributes the following formula to Hirtz:

Extract of stramonium	75 grains;
Alcohol	750 "
Tobacco leaves	1,500 "
Potassium iodide	75 "
Potassium nitrate	75 "

Make 100 cigarettes.

Original Communications.

PERINEAL ABSCESS AND URINARY FISTULA,

WITH CASES.[*]

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It is a subject of common remark among surgeons when approaching the operative treatment of certain forms of chronic or long-neglected disease, that, in glancing back over the clinical history of the case, a point can be readily determined where the neglect of some simple precaution, or failure to apply some equally simple surgical treatment, has resulted disastrously to the patient, and become the source of severe and perhaps not unmerited censure of the physician then in charge.

This statement is most especially applicable to the class of cases embraced in the heading of this paper, and it is for that reason that I have thought a running commentary on the causes and treatment of these conditions might be of interest to the society, the more especially as it is during their earlier and least formidable stages that they are usually presented to the general practitioner, and at the very period when prompt and easily rendered treatment should follow an intelligent appreciation of the symptoms complained of. It is such a general impression that the conditions mentioned only exist as complications or results of advanced stricture of the urethra, or injuries in the perineal region, that they often remain undetected in their earlier stages until forced into recognition by the results they have produced. As a matter of fact, however, abscess, and its sequel, fistula, may be produced by causes entirely independent of specific urethritis. For a clear explanation of these we are indebted to Dittel, of Vienna, who first called the attention of the profession to the fact that in certain cases of death following urinary extravasation a post-mortem examination revealed the existence of only a small orifice in the urethral wall, this opening being, in fact, the ulcerated floor of an inflamed urethral follicle. This ulceration and a tendency thereto he associated during the life of the patient with the presence of shreds or filaments of mucus in the urine, and maintained that such appearances might be taken as proving a predisposition to such forms of inflammation.

It was reserved, however, for Otis to demonstrate by means of his urethrometer the existence in all such cases of a stricture just anterior to the affected follicle, which, acting as a slight dam to the outflowing urine, collected at its posterior surface epithelial and mucous *débris*, or urinary salts, thus inflaming and thinning the urethral floor, and setting up the conditions needed for minute or even dangerous urinary extravasations. To produce such effects, a stricture need not be even a noticeable impediment to micturition, since it may easily admit an instrument larger than the meatus itself (a fact which every surgeon has the opportunity of easily demonstrating for himself), and it is in just such cases that one not familiar with the facts omits the necessary examinations of urethra and urine, and allows the patient to drift on into the serious complications which are almost certain to follow.

What has just been said of stricture following disease is equally true of that following injuries, or even of congenital peculiarities of the meatus, and in the latter we have the explanation of cases like the following:

Case I.—A physician, of robust physique and regular habits, called upon me in September, 1885, with the following history:

For about two years previously he had been suffering occasionally from lithæmia, and the occasional passage of small calculi. During the previous spring he had developed a mild urethritis following intercourse with a perfectly healthy woman (as proved by the absence of vaginitis and cervicitis on examination, and freedom from further trouble on his part, though their relations were continued for some time after).

This urethritis I assume to have been gouty in its character, and due to the irritating quality of the urine habitually passed, as he soon developed a small abscess near the frænum, evidently due to a folliculitis, which discharged, when opened, lithic sand and pus. A very fine fistulous tract remained for a few weeks and then disappeared, but he had from that time suffered from pain in the glans, and discomfort after micturition. The pain had gradually improved, but the discomfort following urination had become so great that he said he often held his water for hours after desiring to void it, rather than suffer the accompanying distress. *At night and after meals* he could pass water, when desiring to do so, with no inconvenience at all. An examination showed his urethra to be absolutely normal, with one exception. The urethrometer expanded to 33 F., glided easily forward from the bulb until it struck the meatus, which was closed by a thin diaphragm of mucous membrane, admitting only 20 F. On passing a delicate curved probe into the pouch formed by this membrane, tenderness was at once complained of. I assured the doctor that his symptoms were entirely due to the accumulation of urinary *débris* in this pocket, and advised section of the membrane. This he consented to, and the operation was done under cocaine anæsthesia on October 5th, and a bulbous bougie, 33 F., at once passed easily to the bulb.

October 7th.—He called at the office and said that the relief had been positive and immediate, that he had worked hard all the afternoon following the operation, and had "forgotten that he owned a bladder." Micturition was now free and painless. I passed a 33 French solid steel sound with ease. The wound healed readily in a few days, and since that time, notwithstanding the supervention of an occasional outbreak of his lithæmic symptoms, urination has been free and painless.

This case would certainly seem to prove that, under certain not very uncommon conditions, a stricture representing only a value of thirteen millimetres is capable of setting up serious pathological changes, as would certainly have been the case if this gentleman's trouble had been located a few inches nearer his bladder. His is by no means a solitary example, and I have seen several others where a specific origin for the folliculitis and accompanying discharge or ulceration could be fairly excluded.

In the vast majority of cases, however, such an origin is present, and is accompanied by the usual history of chronic gleet and stricture. The latter, however, need be by no means formidable in its character, as we have seen, and cases of urinary abscess are by no means infrequent where pain and difficult micturition are not mentioned by the patient in enumerating his symptoms. Their ætiology is simple: A urethritis; a slight stricture; urine varying in its character as affected by diet, atmospheric changes, and especially by stimulants; accumulation of *débris* behind the stricture; ulceration of an inflamed follicle, and extravasation of urine into the cellular tissue below.

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[*] Read before the Medical Society of the County of Kings, November 16, 1886.

If slight, absorption and, perhaps, obliteration of the follicle results; but if greater, fresh inflammation, burrowing, and the formation of a true phlegmon occurs. This, as a rule, is not very painful unless the quantity of urine extravasated is enough to set up a general cellulitis, and the patient may only present himself for treatment when the gradually increasing tumor attracts his attention; and I have seen cases of this kind treated as "chills and fever," the rigors and febrile symptoms, combined with absence of decided local pain, conspiring to mislead the physician.

Otis mentions a case where the abscess, small in size and occupying a position near the frænum, had been pronounced by a well-known surgeon an indurated primary lesion, and the patient in consequence treated with antisyphilitic remedies for a year.

As a rule, however, the symptoms are much more acute, and the swelling and pain, or feeling of weight in the perinæum, or difficult micturition, accompanied by more or less constitutional disturbance, lead to a proper examination, when a perineal swelling and urethral constriction at some neighboring point make the diagnosis clear. The mere passage of a smooth sound as large as the meatus will admit will by no means clear such a case up. In the great majority of them, a bulb, and preferably Otis's expanding bulb or urethrometer, is the only instrument which can give one all the information he should have on these points. In the case just cited a No. 10 English sound could have been passed with ease, yet a stricture equaling in value over one third the circumference of the urethral caliber existed. To pronounce such a case free from constriction would have been to abandon the only means of relief possible.

In deeply seated strictures, the necessity for identifying their seat and relative value to the urethra containing them is of the utmost importance when they are associated with urinary abscess or fistula, as the cure of both conditions can be often achieved at one and at the same time. When the stricture is deeply seated, and the abscess cavity posterior to the deep perineal fascia, any delay in evacuating its contents may be fraught with the gravest results to the patient, as burrowing of matter into the cellular tissue of the pelvis, between the bladder and rectum, etc., is almost certain to occur, and, if complicated by urinary extravasation, to terminate fatally, or end in the most obstinate forms of fistula.

If seated further forward, the stricture is not so immediately dangerous, but abscess connected with it finds in the loose tissues of the scrotum and thigh favorable conditions for the formation of the long and tortuous sinuses with which such cases are afflicted.

Openings reaching back to the nates and upward to the abdomen are not so very rare, while one case is mentioned by Thompson in which the fistulous tract reached up to, and discharged almost all the urine at the umbilicus. It is in this neighborhood that multiple fistulæ are so often found, one case given by Civiale having developed fifty-two. The inflamed and indurated condition of the tissues through which these tracts pass constitutes the great safeguard of the patient, as the cartilaginous walls of the fistulæ and abscess cavities prevent urinary infiltration to any great extent. When, however, for any reason, urine does escape into the surrounding structures in any quantity, new symptoms, due to this complication, force operative procedures of some kind upon the most conservative. The patient who has perhaps been for years suffering from repeated abscesses, followed by fistulæ, with only occasional interruptions to his ordinary avocations, now develops in rapid succession all the phenomena which accompany the presence of irritating fluids in cellular structures; and fresh suppuration, rapidly spreading and destructive inflammation, and gangrene, accompanied by severe constitutional disturbances, place him at once in a position of extreme danger. The situation is almost identical with that which follows laceration of the deep urethra, and the treatment the same—prompt and free division of the perinæum, evacuation of all irritating fluids, and restoration of the urethral canal, if possible, to its normal caliber. What is true of these extreme cases is even more so of urinary abscess in its simpler forms, and it is just in these very cases that a failure to deal with them promptly and energetically constitutes the turning point spoken of in the opening of this paper.

A mere puncture of such an abscess will not do; a free incision which will thoroughly drain it, combined with careful cleansing of its cavity, and packing it with iodoform gauze or some similar dressing, will promptly result in a cure, and avoid the long succession of symptoms described, always providing that the urethral caliber is at the same time, or as soon after as possible, restored to its normal condition. Too much stress can not be laid upon this point when we consider that the views enunciated, while accepted and acted upon by those who are familiar with these cases, seem radical and unnecessarily severe to many, and are often opposed by the patient himself unless the probable result of non-interference be clearly explained to him. But it certainly can be stated as an axiom that in all acute suppurative diseases of the class just mentioned prompt and free incision is the one and only proper treatment. The incision need not open the urethra necessarily, because in some of the less severe forms of folliculitis and urinary abscess the original opening in the urethra, through which irritating matters have escaped, has been shut off by plastic inflammation; but even in these cases the urine usually breaks through the thin barrier formed by the urethral mucous membrane, and so forms a fistula.

If an opening already exist, it is usually found just posterior to a stricture, and, unless the canal is fully restored to its normal caliber, will persist in spite of all ordinary treatment.

The importance of an *early* opening in these cases is so great that the ordinary rule of waiting for fluctuation should not be observed, since the deep perineal fascia which generally forms a covering to the abscess is so dense that fluctuation can not be obtained in most cases until after an unwarrantable delay. I have found that in some obscure cases much assistance can be obtained by passing the index-finger into the rectum, with its palmar surface up, when by making counter-pressure with the thumb the size and situation of an abscess can be often accurately mapped out and fluctuation elicited.

But even if *no* defined tumor can be made out, the existence of heat and general swelling in the perinæum of a patient who, the subject of deep-seated stricture, has been suddenly seized with pain in that region, with diminishing stream of urine and general febrile disturbance, is quite sufficient warrant for an incision which shall be of sufficient length and depth to thoroughly open up the deep layer of the perineal fascia in the median line. To quote Sir Henry Thompson: "The importance of speedily evacuating such collections of matter, even at the very commencement of their formation, can not be overrated. It is often no easy matter to decide upon their existence, and we are not warranted in requiring *absolute* evidence of the fact before making the incisions described." The danger of delay arises during the first few hours, and is intensified with every hour lost, and it is at this very period that the golden opportunity of averting disaster is lost by indecision on the part of the physician or patient. Once lost, the patient either passes on into one of the chronic phases of his disease, with which it is not the purpose of this paper to deal, or perishes from urinary infiltration and its results.

The cases appended, while perhaps extreme instances of their kind, since two of them were caused by direct rupture of the urethra or laceration of its floor, show how rapidly grave symptoms may appear when suppuration and urinary extravasation have taken place, and also illustrate the methods of treatment appropriate to both acute and chronic urinary abscess. The fatal termination in one of them was largely, if not entirely, due to the fact that the treatment advised early in the history of the case was declined by the patient, and also to his reckless disregard of orders, when a late operation had so improved his chances that recovery seemed almost assured.

Case II. *Laceration of the Urethra; Urinary Abscess; External Urethrotomy; Recovery.*—On January 17, 1886, I was asked by Dr. J. Harrigan to see a man, aged sixty-two, who had been injured by falling astride of an iron grating the day before. The injury was rapidly followed by discoloration and swelling of the scrotum and an indurated swelling in the perinæum, but a No. 16 F. catheter was easily passed into his bladder by his physician and some clear urine withdrawn. The removal of the instrument was followed by a copious hæmorrhage from the urethra.

The patient when I saw him could pass his urine in a fair stream, but with some straining. Hoping that the injury was simply a severe contusion, I advised waiting a few hours and the use of warm fomentations of lead and opium.

Three days afterward I saw him again, and found him still passing a fair stream of urine, but, as the scrotum evidently contained fluid, it was incised at its most dependent point, and several ounces of pus and urine were let out, to the patient's great relief. One week after I saw him again, and found the scrotum reduced to its natural size, the discoloration rapidly disappearing, and the patient fairly comfortable. A well-marked urinary fistula had replaced the abscess, and, although the patient could still pass his urine unaided, the size of the stream was diminishing, and I found it impossible to pass any instrument beyond the bulbo-membranous urethra. I accordingly advised an immediate external urethrotomy. This was finally consented to, and on January 31st, two weeks after the injury, he was anæsthetized and a filiform guide passed into the urethra. It promptly made its appearance through the fistulous opening, and a dozen more followed the same course, showing a large rent in the urethral floor. The next, however, passed a little farther in and became engaged in the proximal end of the urethra, but could not be passed into the bladder. Upon this a catheter staff was passed down *to* the obstruction. A fine probe-pointed director was then introduced through the fistula, and, having reached the staff, passed, after a little manipulation, into the deep urethra. Upon this the fistula was freely divided, when it passed on into the bladder. A Little's director was then passed upon the first one introduced, and upon this a Teale's gorget, when, as its beak entered the bladder, a gush of urine followed. The estimated size of the urethra, as ascertained by measurement of the flaccid penis (three inches and a half) being 34 F., the meatus was now enlarged to that size, and a solid steel sound of corresponding caliber slipped easily into the bladder, being guided through the ruptured urethra upon the gorget. On the third day I passed a full-sized sound with ease, and from this time the patient recovered rapidly. I did not see him again until March 5th, when he called at my office, in perfect health and about to resume his work. He was at that time passing a full-sized sound once a week, but has since increased the interval, and still remains in perfect health.

As a contrast to this case, the following one, in which the early history was somewhat similar, may be given, as it illustrates very clearly the danger of neglecting prompt and efficient evacuation of acute urinary abscess.

Case III. *Laceration of the Deep Urethra; Retention of Urine; External Urethrotomy; Death.*—J. K., twenty-six years old, was seen by me June 28, 1884, in consultation with Dr. D. M. Flannery, who gave me the following history:

On the evening of June 21st (just one week previous) the patient, while intoxicated, sprang from a second-story window and struck his perinæum on a fence from which he rolled to the ground, and then, wild with excitement, climbed four other fences, thus gaining a side street, and spent the remainder of the night in a continuance of his debauch.

Early in the morning he returned home, and, as he was complaining of pain and inability to urinate, a physician was called in, who attempted to pass a catheter, but failed, the withdrawal of the instrument being followed by a copious hæmorrhage.

After waiting a day longer, during which time no urine had been voided, Dr. Flannery was called in, who found the perinæum swollen and tender, and evidences of laceration of the urethra, as blood was still oozing from the meatus. After repeated attempts, a No. 6 French olivary catheter was passed and two quarts of clear urine withdrawn, followed by some bright blood. The catheter was left in, but by the following day the patient had developed symptoms of peritonitis, with a temperature of 106° F. and low muttering delirium. In an unguarded moment he removed the catheter, which was not introduced again until next day, when with great difficulty it was passed into the bladder and another quart of urine withdrawn. Under large doses of quinine, opium, and stimulants the temperature fell, but it was found to be impossible to retain the catheter, and on the following afternoon (June 25th), during a straining effort, the patient "felt something give way," and a hard and painful swelling rapidly made its appearance in the perinæum. The catheter was again partly introduced, but did not enter the bladder, and on its withdrawal fœtid pus and grumous material clung to the eye and hung in shreds from its end. Dr. Flannery now proposed an operation, but was refused, and for two days longer the patient was kept up with stimulants, opium, and liquid nourishment.

On the 28th of June, as he was beginning to fail rapidly, his friends consented to an operation, and I accordingly saw him. On inspection, I found the scrotum immensely distended with blood, while a fluctuating tumor occupied the perinæum from the verge of the anus to the scrotum. In both inguinal regions were extensive patches of urinary infiltration; the penis was turgid and œdematous, and the meatus clogged with offensive *débris* and blood-clots. On attempting to pass a small olivary catheter, I found that it left the urethra through a rent in its floor, and in the vicinity of the bulb. The extreme gravity of the man's condition was explained to his friends, and his removal to a hospital for operation urged. This being finally consented to, he was promptly taken to St. Mary's, and, ether being administered, I attempted to pass a whalebone guide into the bladder. The urethra being filled with oil after Gouley's method, one filiform guide after another was passed, until at last one apparently entered the bladder. Upon this as a guide, Gouley's catheter staff was passed as far as it would easily enter; this proved to be a point just anterior to the triangular ligament.

As the patient was not bearing the anæsthetic well, and trusting that the guide at least was in the deep urethra, I rapidly made a free incision in the median line, evacuating about two ounces of putrid blood-clots, pus, and urine. On irrigating the cavity left, I found the guide doubled up in it, as it had left the urethra through a rent fully an inch in length, and just anterior to the triangular ligament. The bulb was crushed and macerated, and all the tissues in the vicinity sodden and gangrenous as far back as the rectum. Careful and somewhat prolonged attempts were made to identify the proximal end of the urethra by passing fine guides from the perineal wound, but, although urine now escaped in occasional jets from the canal, the matted and softened condition of the tissues precluded success. As the patient's powers were evidently failing, the attempt was abandoned, and the median incision extended rapidly forward into the scrotum and back toward the rectum. Gas, decomposed materials, and pus were evacuated, and the whole field of operation was irrigated with warm carbolized fluid.

The patient was removed from the table in an apparently moribund condition, pulseless, and with involuntary evacuations from the rectum, but rallied under free and judicious stimulation. As the softened tissues gave rise to considerable oozing, sponges wrung out of hot carbolized water were applied, and two ounces of whisky were given every two hours.

On the following day (June 29th) the patient's temperature had fallen to 100·5°, and his pulse to 100. He had slept some, and was passing urine freely through the wound, with complete control of the bladder. He expressed himself as very comfortable, and began to show desire for solid food.

June 30th.—Had improved rapidly. The wound was beginning to clean up, and the urine was passed freely and voluntarily. This improvement continued steadily until July 4th, when the patient (who with returning strength began to manifest his natural stubborn and ungovernable disposition) left his bed at night during the temporary absence of the orderly, and walking to the water-closet, clothed only in his shirt, contracted a severe cold. On the following day he had a sharp rigor, followed by fever, pain in the side, the rapid development of chest symptoms, and the supervention of a typhoid pneumonia, which proved fatal in three days, the patient dying on the evening of July 7th, just nine days after the operation.

The next case is given as an illustration of the general history and treatment of chronic abscess, and it can certainly be predicated of it, as of most cases of its kind, that early recognition of the importance of a prompt division of the perineal abscess and restoration of the urethra to its normal size would have restored the patient to health and comfort years ago, and saved him long months of suffering.

CASE IV. *Chronic Perineal Abscess complicating Traumatic Stricture; External Perineal Urethrotomy; Recovery.*—C. R., seventy-three years of age, was referred to me October 1, 1886, by Dr. J. F. Moore, with the following history: Twelve years ago the patient had fallen astride of a step-ladder upon which he was standing and injured the perinæum. The injury was immediately followed by the passage of clear blood in some quantity, and its appearance for several days in the urine voided. Slight pain was complained of, but in a few days it disappeared and the patient gradually returned to his ordinary health. A slight induration remained at the peno-scrotal junction for a few months, and was followed by the occasional presence of what the patient described as "hard boils upon the penis which never came to a head, and gradually went away without further trouble."

Two years ago, however, symptoms of urinary obstruction manifested themselves, and a stricture was discovered at four inches, and dilated from No. 2 to 20 F. His symptoms immediately improved, and he neglected treatment until about six months ago, when he again suffered from obstructed micturition and a return of the follicular abscesses. A large phlegmon developed at the peno-scrotal angle, and, after varying experiences and steadily progressing decrease in the size of stream voided until retention was imminent, he was referred to me. An examination revealed the presence of a stricture at four inches, impervious to any but filiform instruments. A phlegmon of about the size of a hen's egg occupied the region of the bulb, but no fluctuation could be detected. I advised immediate operation, and the following day, having passed a whalebone guide into the bladder, introduced a catheter staff, and upon it opened the urethra just anterior to the strictured point. After cutting through the abscess wall, which was over an inch in thickness, a quantity of horribly fœtid pus and urine was evacuated, and the urethra discovered to be almost obliterated beyond the strictured point. With great difficulty it was identified and gradually freed from constriction. At one point it was almost separated from the surrounding corpora cavernosa, and resembled a fibrous cord. The method adopted was the last stage of Wheelhouse's operation. The urethra having been first opened at a point anterior to the stricture, the edges were seized with strong nibbed forceps and held apart, while with a fine probe and Gouley's knife a systematic dissection was made toward the bladder till the bulb was reached. At this point I was unfortunate enough, while attempting to divide a deep constricting band, to cut the filiform guide, which I had followed to this point without mishap. Another was, however, soon passed from the perineal wound, and upon this I threaded the catheter staff, and, having reached healthy urethra, passed it upon a Teale's gorget into the bladder. No larger instrument could be passed at the time, and, leaving a guide in the bladder upon which I could pass instruments if necessary for the first few days, I had the patient removed to bed. This precaution was adopted contrary to the general rule, because, as the urethral incision was an unusually long one, I feared my ability to pass instruments easily through its entire length without anæsthetics, and these I feared to use often on account of the patient's advanced age. In the evening the patient had a severe rigor, followed by urethral fever of a mild type. He passed water almost without pain and in full quantity, but removed the guide by a sudden movement during the night. His temperature fluctuated between 99° and 100° until the evening of the second day, when it fell to the normal, and so remained during the progress of the case.

On the ninth day following the operation a filiform guide was passed into the bladder, and upon it a tunneled catheter, No. 18 F., glided easily into the bladder. This operation was repeated at intervals till the fourteenth day, when the patient was beginning to pass water *per urethram*, and was about his room. The size of the sound was gradually increased to 29 F., and by the end of the third week the wound was soundly healed and the patient about the house. He is now attending to his business, and in perfect health.

CASE V. *Perineal Abscess and Fistula; External Perineal Urethrotomy; Recovery.*—E. F., aged twenty-seven years. This patient, a rigger by occupation, I saw in consultation with Dr. J. C. MacEvitt, May 30, 1886 A history of repeated attacks of gonorrhœa since 1876 was given. In 1884 he had been treated for a close stricture of deep urethra, in a hospital at Portland, Me., with temporary relief, but had neglected himself since, and for the last year and a half had been suffering from a perineal fistula, so that he was compelled to micturate in the sitting position always, as most of the urine passed by the fistulous opening. A week previously, after drinking beer to excess and exposure to cold, he had a rigor, followed by perineal pain and swelling. Dr. MacEvitt had only seen him once, and, being unable to pass any instrument into the bladder, explained his danger to him, and urged an operation. This was consented to, and he was accordingly anæsthetized and an examination made, revealing four strictures.

The first, at the meatus, would admit only a 10 F. bulb; the second, at one inch and a half, measured 12 F.; the third, at three inches and a half, 10 F.; and at five inches the urethra was impervious to anything but a filiform guide, which was passed into the bladder. The normal urethra was estimated at 27 F., by examination previous to anæsthesia with the urethrometer. The meatus was now cut to 30 F., when a dilating urethrotome was easily introduced, and the stricture at one inch and a half and at three inches and a half cut to 28 F. A catheter staff, 17 F., was then slid down the guide previously introduced to five inches, but could pass no farther.

The patient was now placed in the lithotomy position, and the perinæum opened in the median line by a free incision, giving exit to several ounces of foul pus and urine. The wound was held open, and the cavity of the abscess cleansed, when the urethra was easily opened just anterior to the deep stricture. Gouley's fine probe-director was now cautiously introduced by the side of the filiform guide and pushed toward the bladder, and upon it all strictured tissues divided. As the urethra at this point was converted into a mass of dense cicatricial tissue, and the bladder had been completely emptied through the fistulous opening during the early stages of the anæsthesia, this was no easy task; but, once accomplished, a Teale's gorget was easily slid into the bladder, and the staff passed upon this. The guides were now withdrawn, and a 27 F. bulb passed to five inches, where it was arrested; it was partially withdrawn, and a probe-pointed knife introduced through the perineal wound, cutting a slight band anteriorly, when the bulb glided easily into the bladder. A full-sized steel sound was now passed and left in the bladder until the patient began to show signs of returning consciousness. On its withdrawal there was a gush of clear urine (about ℥ij). The patient was given a full dose of quinine and opium, and expressed himself as feeling very comfortable.

On the following day his temperature had fallen to 99·75°, and he was eating and feeling well.

A slight attack of peritonitis, probably due to burrowing of pus before operation, complicated the first few days of convalescence; but it was readily controlled by full doses of opium, and from the end of the first week a full-sized sound was passed every third day.

The patient rapidly recovered, and a communication from his physician a few days since informed me that he was now passing water but three times a day, and could hardly be made to continue treatment. It is hardly necessary to say that his future health depends absolutely upon his faithful observance of this, as without it a relapse is certain to occur, and in a short time.

THE RELATIONSHIP BETWEEN CARDIO-VASCULAR AND RENAL DISEASE.*

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THE subject of the paper which I have the honor of presenting to this society is of marked interest and importance. It possesses the abstract interest pertaining to debatable scientific questions. It has the additional importance of bearing a close relation to the practical questions of diagnosis and therapeutics. The topic indicated embraces many points for discussion, as, in spite of a vast amount of careful clinical and pathological investigation, there is by no means a consensus of opinion among the workers.

For the sake of orderly sequence let cardio-vascular disease be taken as a starting-point. It is evident that the relationship may be threefold. Cardio-vascular lesions may stand to renal disease either as cause, effect, or concomitant.

There is without doubt one form of renal disease that can be referred to the first class, having cardiac disease as its efficient cause.

When the venous side of the circulation is engorged and its tension increased, owing to valvular or other defects in the cardiac mechanism, the kidneys suffer in common with other viscera. Lesions of the mitral orifice, especially those leading to stenosis, are particularly apt to cause notable venous congestion. Imperfect nutrition of the heart muscle is also sufficient to produce a similar condition. If the engorgement of the renal veins and their radicles is sufficiently great and continued, it gives rise to the condition termed cyanotic induration of the kidney. If the congestion has lasted a comparatively short time, the kidneys are enlarged, red, and filled with blood. They have a peculiarly firm consistence. Delafield † states that injecting the vessels of the normal kidney with water will give this characteristic hardness. The capsule is non-adherent and the surface smooth. No special histological alterations can be discovered. If the engorgement is of long standing, the doctrine propounded by Sir William Jenner holds good—viz., that continued congestion of any organ from mechanical causes will produce fibrotic changes of a low grade. In this case the kidneys will not only exhibit induration and redness, but the capsules will be somewhat adherent and the surface finely granular. According to the statistics of Dickinson * and Barclay, one third of the cases in which death resulted from valvular disease exhibited more or less granular kidneys. Delafield † examined 137 cases where death was due simply to cardiac disease, and in which the kidneys were abnormal. Of these cases, 53 exhibited the smooth red indurated kidney due to venous congestion of comparatively brief existence. The remainder, 84 in number, displayed in varying degrees the organic lesions of long-continued engorgement. The microscope reveals a varying increase of the interstitial tissue, and the capsules of the Malpighian bodies may be thickened. The tubal epithelium in long-standing cases undergoes granular or fatty degeneration, doubtless due to imperfect oxygenation.

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* Read before the Brooklyn Pathological Society, December 9, 1886.

† Pepper's "System of Medicine," vol. iv, Philadelphia.

The clinical symptoms of venous renal congestion differ according to the duration and extent of the primary cardiac lesions. The urine is apt to be diminished and its specific gravity increased, although there are many exceptions to the rule. Albuminuria is slight, sometimes intermittent. Casts are usually absent until the later stages, always scanty, and of the hyaline variety. The condition known as uræmia does not occur as a result of renal venous engorgement. Remembering the conditions which are essential for the production of general venous stasis, it is an obvious deduction that chronic renal congestion does not occur while efficient compensation for valvular lesions continues. It is not until the heart-muscle loses its power from imperfect nutrition that the symptoms of passive engorgement of the kidney supervene, unless due to some other general or local condition. The diminished excretion of urine is reasonably attributed to the fact that as the venous pressure increases the arterial tension is lowered.

It is generally conceded that the indurated kidney can not be classed with the lesions constituting chronic Bright's disease. Frerichs ranges it with the granular kidney, but Traube and others have quite conclusively proved that it constitutes a separate form. Neither the tubal nor interstitial changes attain to the proportions of similar changes which occur in the contracted kidney. The histological argument is weaker than the clinical evidence. The condition in question follows cardiac valvular disease. It gives no sign of existence until there is indubitable evidence of a failing heart, non-compensation of imperfect valves, and general venous congestion. Albuminuria is slight as compared with other forms of chronic renal disease. Uræmia does not occur. Œdema, when it exists, betrays its cardiac origin by commencing in the lower extremities. Roberts ‡ states that this form of renal disease has no momentum of its own, but oscillates with the intensity of the venous obstruction. Eichhorst * affirms that the symptoms come and go according to the vigor of the heart's action. It is evident from these considerations that the indurated kidney may be placed under the first head—that of renal lesions due to cardio-vascular disease.

In seeking for further forms of renal disease having cardio-vascular lesions as their primal cause, or as a necessary factor in an ætiological chain, we enter upon debatable ground. Two varieties of renal disease are of especial interest at this point. For the sake of completeness they are briefly described. According to the classification and terminology usually adopted in this country, the varieties referred to are known, according to the predominant histological changes, as chronic interstitial nephritis, producing the contracted granular kidney, and chronic parenchymatous nephritis, resulting in the large white or smooth kidney. Both forms are included under the generic term of Bright's disease. In neither of these varieties, if at all typical, is there any notable amount of waxy degeneration.

The granular or contracted kidney is reduced in size and weight to one half or one third of the normal. It is tough and resistant. The capsule is adherent, and when forcibly detached may bring with it portions of the renal tissue. The surface exposed after removal of the capsule is coarsely granular. Small cysts of variable size are seen upon the surface and in the parenchyma. The cortical portion is much reduced in thickness—occasionally to a mere line surrounding the bases of the pyramids. Histologically, in a typical case, the fibrous stroma is found to be greatly increased at the expense of the secreting structure. This increase is not regular, varying in amount in different parts of the kidney. Dickinson states that it is apparently determined by the position of the blood-vessels. By the overgrowth of the interstitial tissue the tubes are compressed, portions may be entirely constricted, and by the accumulation of a serous fluid form the cysts which are seen by the naked eye. The Malpighian bodies are compressed, sometimes to an extreme degree, either directly by the interstitial growth or by fluid accumulating in the capsules from which its exit is obstructed. An important change is found in the walls of the renal arterioles, which are thickened sufficiently to diminish their lumen and elasticity. The tubal epithelium is absent, atrophied, or the subject of granular and fatty degeneration.

The kidney of chronic parenchymatous nephritis, or the large, smooth kidney, is, as its name indicates, usually enlarged. Its surface is smooth, the capsule remaining non-adherent. On section, the enlargement is seen to affect chiefly the cortical portion. Scattered throughout the kidney are patches of tissue where more or less interstitial growth has occurred. In these fibroid patches the tubes and their epithelium are atrophied, and the vessels in the same area show thickening of their walls. The interstitial changes are much less marked than those occurring in the tubes. In all portions outside of the fibroid patches the tubes are dilated and enlarged. The epithelium lining their

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* "Treatise on Albuminuria," 2d ed., 1881, New York.

† *Op. cit.*

‡ "Treatise on Urinary and Renal Diseases," 3d ed., Philadelphia, 1879.

* "Hand-book of Practical Medicine," vol. ii, New York, 1886.

walls is increased in quantity, swollen, and granular. In contradistinction to the contracted kidney, in which the predominant changes are interstitial, the alterations in the smooth kidney are mainly tubal and epithelial.

For the purpose of this discussion the waxy or amyloid kidney is excluded.

As in all other pathological classifications, no sharp line of demarkation can be drawn between the granular and smooth kidney. There are kidneys which can not be decisively relegated to either class, owing to an equal intermixture of those histological changes generally considered characteristic of each variety. But by eliminating doubtful specimens it is possible, according to the testimony of competent observers, to obtain two groups which shall closely approximate the typical kidneys as described.

There are other changes which now demand attention. Richard Bright, in his original researches on the disease which bears his name, observed that in a large proportion of cases cardiac hypertrophy existed without valvular lesion. The hypertrophy concerns mainly the left ventricle. Numerous pathological and clinical observations have shown that this hypertrophy is most constant and extensive in connection with the granular kidney. Dickinson states that he has come to regard cardiac hypertrophy as one of the most important signs of renal fibrosis. It occurs also in cases of chronic parenchymatous nephritis, but not to so marked a degree. Even in cases of acute nephritis, if the inflammatory process shows a tendency toward slow resolution or becomes subacute, some degree of ventricular hypertrophy is almost invariably developed.

A further and important pathological event relates to the arteries. This consists in a thickening of their walls, the effect of which is to diminish their lumen and lessen their elasticity. The vascular thickening is found to a greater or less degree, not only in all cases of chronic renal inflammation, but also in the more acute forms of the same disease when tending toward chronicity. This change is not confined to the kidneys. It may be co-extensive with the vascular area, or it may be localized in widely separated organs and tissues, varying much in intensity. It affects mainly the smaller arteries and arterioles. It is found most frequently in the arteries of the kidney, pia mater, liver, spleen, intestines, and skin. No structures are exempt. In addition to the thickening of the smaller arteries, the aorta, from its origin to below its bifurcation, is commonly the seat of areas of atheromatous degeneration variable in size and distribution. This condition is usually most marked at the aortic orifice, and often involves the coronary arteries and aortic cusps, as noted by Dr. B. F. Westbrook.*

The arterial thickening like cardiac hypertrophy is much more frequent and extensive with the contracted kidney than with other forms of chronic renal disease. Indeed, Dickinson states that the thickening is more constant with renal granulation than the ventricular hypertrophy. Loomis † mentions three cases of granular kidney which had been under observation for long periods. After death a minute and careful examination revealed the walls of the arterioles in the skin and internal organs uniformly thickened. No constant abnormal change was found in the capillaries. Many others have recorded similar observations. It may be admitted that vascular thickening occurs in all forms of chronic renal inflammation, that it is most marked and extensive in subjects of granular kidneys, and that while the process may be widely distributed throughout the arterial system, yet its intensity varies greatly in different parts of that system.

As to the anatomical nature of the thickening there is a diversity of opinion. Bright noticed the thickening of the renal arteries, and, clinically, that the radials were hardened. Of later observers, Dr. George Johnson considered the thickening to consist mainly of an hypertrophy of the muscular coat. Sir William Gull and Dr. Sutton maintain that the increase in thickness is due to a fibroid overgrowth of the outer coats of the arteries, without muscular hypertrophy. Dickinson states that he has found the thickening to involve both coats, the muscular hypertrophy usually antedating the fibroid change. Dr. Saundby, quoted by Ralfe,* states that in two arteries taken from the same kidney one had well-marked fibroid changes with little or no muscular hypertrophy, while the other was almost entirely made up of muscular fibers. Ralfe himself thinks that in the early stages of granular kidney the muscular hypertrophy predominates, and in the later stages the fibroid change exceeds and may replace the muscular. Bartels affirms that the fibroid changes of Gull and Sutton are rarely found, and many German observers concur in this view. It is clearly established, however, by numerous reliable observations, that thickening of the vascular walls does occur, that both middle and external coats participate in the increase, and that in the early stages the muscular overgrowth, in the later the fibroid change, predominates.

These points, then, may be taken as proved: that cardiac hypertrophy, fibrotic thickening of the smaller arteries throughout the body, and more or less atheroma are found in chronic nephritis. Moreover, that the cardio-vascular alterations are most intense and wide-spread in subjects of the contracted kidney, although occurring to a smaller degree in subacute and chronic forms of parenchymatous nephritis.

In addition to the vascular changes in contracted kidney, certain lesions of other organs and tissues are found, due to over-development of connective structure elements, as cirrhosis of the liver and spleen, opacity of the meninges, and thickening of the bronchi.

It is now competent to inquire as to the ætiology of the cardio-vascular changes, and the relation, whether as cause or effect, that such changes bear to the renal disease. There is and has been a wide difference of opinion in regard to these questions. Bright explained the cardiac hypertrophy in two ways—either that the blood rendered impure by defective renal excretion exercised a stimulant effect upon the action of the heart, thereby leading to muscular overgrowth, or that its circulation through the capillaries was so hindered by the impurity that greater force of ventricular contraction was required for its propulsion. Traube was at first inclined to believe it due to the difficult passage of the blood through the thickened renal vessels. But this manifestly insufficient explanation he subsequently abandoned. Dr. George Johnson maintained that the blood, vitiated by retained matters which should have been excreted by the kidneys, caused contraction of the arterioles. The attempt of the arterioles to exclude the contaminated blood raises the arterial tension, and the left ventricle, endeavoring to overcome the abnormal resistance, becomes hypertrophied. The over-action of the arterial muscular coat causes it to increase in bulk, and this accounts for the thickening of the tunica media which Johnson regards as the principal abnormal vascular change. Gull and Sutton, on the other hand, affirm the change to be mainly in the outer coat, to be a fibrosis both of the arterioles and capillaries, and that the cardiac hypertrophy arises from the obstruction to the circulation due to thickening and loss of elasticity of the vessels. They maintain also that the fibrotic process is wide-spread, that while it is found with contracted kidney it may exist without renal disease, and first manifest itself in other organs. They hold it to be due to a general morbid process, and that when found with contracted kidney, it is primary and essential to the renal lesion, the latter being simply a part of a universal condition.

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* "New York Med. Jour.," October 2, 1886.

† *Ibid.*, February 20, 1886.

* "Kidney Diseases," Philadelphia, 1885.

Dickinson, while corroborating the anatomical changes found in both coats, opposes the theory propounded by Johnson to account for the cardiac hypertrophy on the ground that it is unphysiological to represent the heart and arteries as acting in antagonism. The conception of Gull and Sutton that renal fibrosis is only part of a wide-spread degeneration does not meet with his approval. This negation is based upon the ground that, although cardio-vascular thickening is almost invariable with the granular kidney, some degree of it is commonly to be found with other forms of renal inflammation, and it has been traced to such an obviously local cause as destruction of renal tissue by calculus. His own theory is that blood contaminated by renal excrementitious matters flows with great difficulty through the capillaries. Consequently the heart and arteries have additional work thrown upon them, the arterial tension is raised, and both hypertrophy to compensate for the increased resistance. The enhanced blood-pressure, and possibly the irritating effect of the impure circulating fluid, combine to produce fibrotic and degenerative alterations.

In analyzing the theories by the observers mentioned and by other investigators in the same field, it will be seen that they concur in attributing the cardio-vascular changes to the influence of impure blood. The blood may be rendered impure by toxic agencies, as in scarlatina or lead-poisoning. It may be the result of imperfect assimilative processes, as in gout and lithæmia. It may arise from deficient excretion due to diseased kidneys. Lastly, as stated by Da Costa and Longstreth, it may be due to morbid alterations in the semilunar ganglia. Other nervous influences may have a similar effect, as by overwork and worry, leading to early tissue degeneration and imperfect action of various organs.

Granting this morbid state of the blood, it is evident that it may lead to cardio-vascular changes in two ways. First, by increasing the arterial tension. Recall for a moment the physiology of the heart and arteries. It is well settled that both heart and arteries unite in a single function—namely, the propulsion of the blood. The arteries and arterioles have a contractile power as well as the heart. Loomis, in the article referred to, cites an instructive experiment upon this point. If stasis is produced in a limited capillary area of a living frog's mesentery, the small artery supplying such area becomes distended, but no impression is made upon the point of stasis by the heart's action. Suddenly the arteriole itself contracts and expels its contents, and the stasis is overcome.

The contractile power of the arterioles is, however, not unregulated. It is controlled by that portion of the nervous apparatus known as the vaso-motor system, which contains both vaso-motor and vaso-constrictor fibers. These fibers terminate in the muscular coat of the arteries. By the alternating or consentaneous action of the ganglia in which the vaso-motor nerves originate, the arterioles are kept in a state of tonic contraction, varying in health within narrow limits. General as well as local contraction or dilatation of the arterioles may take place. It is not necessary to quote the well-known experiments which prove this fact. The capillaries appear to be passive and to have no part in propelling the blood-stream. Furthermore, if the arterioles dilate, the arterial tension is lowered. If their normal contraction is increased, the tension is heightened.

Experimental investigations have shown that when the blood is so charged with certain constituents, abnormal in quantity or quality, as to be ill-fitted for assimilation by the tissues, the arterioles will contract beyond the normal under vaso-motor control. The abnormal contraction of the arteries will, to a greater or less degree, hinder the passage of the blood to the tissues, and the arterial tension will be raised to a corresponding point. It is obvious that the hindrance to the blood-current throws more work upon the heart and arteries. If the obstruction lasts for a considerable period, continuous overwork of muscular tissue, within certain limits, entails hypertrophy. Hence arise the ventricular hypertrophy and thickened middle coat. Dickinson has pronounced this theory, as put forward by Johnson, to be unphysiological, because it represents the heart and arteries as acting in opposition. As we have seen, the arterioles not only aid the blood-flow, but also regulate its supply under the control of the vaso-motor system. Granting that a wave of contraction runs along an arteriole corresponding in rhythm and frequency to the action of the heart, it is obvious, the tonic contraction remaining the same, that an average area of cross-section of the tube must exist. If the tonic contraction is materially increased, it is also obvious that the area of cross-section must be correspondingly diminished. Thus greater friction of the blood-current is caused, and by so much its progress is hindered. Only in some such way can the blood-supply of a given area of the tissues be at one time increased, at another diminished. There seems to be no incompatibility between the propulsive and regulating functions of the arterioles.

Muscular hypertrophy in the cardio-vascular apparatus, with continued high tension, furnishes favorable conditions for fibroid and atheromatous degenerations. These changes occur earlier or later in all forms of chronic renal inflammation.

In the second place, the abnormal blood may cause vascular changes by direct irritation of the vessel-walls. Holsti* has observed these changes to be most marked where the blood rests longest, as in the small arteries, especially those connected with the abdominal aorta. B. F. Westbrook considers it probable that the direct exciting cause of the arterial fibrosis is the presence of uric acid in the blood.

It has been ascertained from the previous investigations that the blood may be contaminated either by defective excretion due to kidney disease, or by processes not dependent upon renal disease, and that in whatever way the impurity of the blood arises, it is competent to produce the cardio-vascular changes which have been observed.

Returning to the discussion of the causal relation between cardio-vascular and renal lesions, the question arises whether vascular or cardiac disease can be considered a factor in the production of any form of renal disease other than the indurated kidney of chronic venous congestion.

After carefully examining the arguments adduced on both sides of the question, I am constrained to believe that the typical granular, contracted, or gouty, kidney, as it is variously called, must be assigned to this class as being the result of a wide-spread vascular change, which may or may not be most intense in the renal arterioles. The vascular lesions can not be looked upon as the absolutely primary cause, for they in turn are preceded by alterations in the composition of the blood.

The reasons for this view are derived from both pathological and clinical observations.

The pathological data have been referred to with sufficient detail. Briefly stated, the vascular lesions are most marked and complete in connection with the contracted kidney, atheroma is very common, and cirrhotic changes in other organs, especially the liver, occur with greater frequency.

The clinical evidence is more convincing.

A case under my care at the present time will serve as an illustration. The patient, a gentleman aged forty-three years, is of gouty heredity and has suffered from frequent gouty attacks. I first saw him in 1883, during a mild paroxysm of the disease. After recovery I made a careful examination at his request, as he had been rejected by an insurance examiner in 1882 because of "enlarged heart." He complained of frequent attacks of indigestion, accompanied with the deposit of reddish sediment in the urine. He was of irritable disposition. The feet and hands were constantly cold. Physical examination of the chest showed the apex beat in the mammary line, and behind the sixth rib. The impulse was strong. On auscultation, no abnormality of the cardiac sounds could be detected, excepting accentuation of the aortic second sound. The pulse was normal in frequency, but resistant. The artery felt tense. A sphygmogram showed blunting of the summit of the trace. The diurnal quantity of urine was not sufficiently deviated from the standard to be considered abnormal. The specific gravity was within the limits of health. Neither albumin nor casts were found after repeated examinations. The abandonment of a speculative business and moderation in the use of alcoholic drinks have kept him in fair condition. The enforcement of dietetic regulations has resulted in lessening the frequency of the gouty exacerbations. He has had an attack of subacute pleuritis, with moderate serous exudation, which was absorbed without aspiration. Within the past four months the diurnal excretion of urine has notably increased, varying from sixty to eighty ounces. The specific gravity of the mixed urine shows a tendency toward a lower figure, ranging from 1·014 to 1·020. The cardiac hypertrophy and radial hardness I judge to be increased, although I will not be certain upon this point. A faint albuminous cloud is obtained in the urine by heat and nitric acid. No casts have been found.

Although this case lacks the final argument of an autopsy, I judge it to be an example of cardio-vascular disease leading to contracted kidney. Constant mental and physical excitement, gouty heredity and constitution preceding high arterial tension and cardio-vascular changes, these in turn followed by increased excretion of albuminous urine with lowering of the specific gravity, form a clinical picture which leads fairly to such a conclusion.

This case is an example of the clinical evidence offered to prove the proposition that cardio-vascular changes antedate and at least constitute a factor in the causation of the contracted kidney.

Statements to the same effect may be quoted from recent literature on the subject.

Loomis* affirms that in the cirrhotic form of Bright's disease "the kidneys are evidently not the organs primarily affected, for the renal symptoms are so vague and ill-defined that the kidney changes are often overlooked. In forty recorded cases in which autopsies were held, "twenty-six presented symptoms other than renal, but all had morbid arterial tension and left cardiac hypertrophy."

Holsti† finds "two well-marked divisions in the progress of this disease—one cardio-vascular, the other uræmic." He believes the cardio-vascular change to be primary, "chiefly because the clinical progress of the disease is thus best explained."

Eichhorst‡ states that "primary changes occur in the red contracted kidney in the circulatory apparatus." He says, also, "it is probable that the vascular changes in the kidneys are a part in certain cases of a general disease of the vessels."

Ralfe# remarks "that the cardio-vascular changes associated with the typical red granular kidney are due to a general morbid state which is the primary and essential condition."

Mahomed‖ shows that abnormal arterial tension antedates renal symptoms, and concludes that the vascular change is the cause, not the result, of albuminuria in this form of the disease.

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* "N. Y. Med. Jour.," Nov. 20, 1886, translated by F. B. Stephenson.

* "Med. Jour.," Nov. 20, 1886. † *Ibid.* ‡ *Op. cit.* # *Op. cit.*

‖ "Transactions of the Royal Med. and Chirurg. Soc.," 1874.

Traube states that the ventricular hypertrophy does not depend upon the renal disease, but upon the arterial tension and morbid processes which lead to the contracted kidney.

Although the vascular changes can not be regarded as an absolutely primary cause, for they are preceded by an altered blood-state, yet I think it permissible to rank the typical granular contracted kidney as a result of cardio-vascular changes.

The morbid alterations of the circulatory apparatus occurring in connection with the large, smooth kidney of chronic parenchymatous nephritis must be regarded as due to the retention of excrementitious substances, and therefore this form of kidney disease stands as the prime cause of such alterations. The pathological events of this variety of renal disease are admitted to begin in the tubular epithelium, thus hindering proper excretion. Impure blood causes pericarditis and endocarditis, acute and chronic, valvulitis deformans, ventricular hypertrophy and dilatation, and more or less vascular thickening. This latter occurs in the manner already pointed out, although it does not reach the high grade observable at an early period in the contracted kidney. No discussion of these statements appears to be necessary.

To summarize: In both varieties there is a blood change. In the contracted kidney the blood change is primary, causing more or less extensive vascular lesions, followed by left ventricular hypertrophy, and finally by renal disease and uræmia.

In the other variety the renal lesions are primary, morbid blood changes follow, and the vitiated blood-state produces cardio-vascular disease.

In regard to the third division of our classification—viz., where cardiac and renal diseases exist as concomitants—little need be said. It is obvious that causes sufficient to produce both classes of disease may act independently upon the organism, as in cases where a patient with valvular defects resulting from endocarditis of rheumatic origin becomes the subject of chronic renal disease. After both are established they will undoubtedly react one upon the other, but neither holds a causal relation.

This paper embraces nothing beyond the pathological aspect of the subject.

PAROTITIS COMPLICATING GONORRHŒA.*

By B. FARQUHAR CURTIS, M. D.

Parotitis seems to be a rare complication of gonorrhœa, for I have been unable to find any case on record, and in the large number of cases of gonorrhœa seen at the Chambers Street Hospital Out-patient Department during almost three years, only the two cases following developed parotitis:

Case I.—Michael B., aged thirty, laborer, Ireland.

August 28, 1885.—Had had gonorrhœa twice before, and venereal ulcers last winter. The present gonorrhœal discharge began seven weeks ago, six days after connection. A bubo appeared five weeks ago and now fills the whole left groin, not tender, fluctuating at some points. Five days ago the left side of his face swelled (as it did also with one of his former attacks of gonorrhœa), and now the parotid region is swollen and hot, the lobe of the ear is raised, and the jaws can not be widely separated. The teeth are in bad condition. There is no ardor urinæ. The testicles are not inflamed.

September 4th.—The parotid swelling has disappeared without special treatment.

The case then ran on as an ordinary chronic urethritis, but at no time was there any epididymitis.

Case II.—Ferdinand Z., aged twenty-two, varnisher, United States.

June 26, 1885.—Had gonorrhœa two years ago. Present attack began three days ago, eight days after connection. At present the pain and discharge are slight. Alkaline treatment.

July 10th.—A painful, but not tender, swelling has appeared in the right parotid region. Iodine applied. Urethral injection.

17th.—The parotitis gradually decreased, and has now disappeared.

August 17th.—Discharged cured.

At no time was any epididymitis present.

In both cases inquiry was made as to whether there had been any exposure to mumps, and in both cases it was denied; while the statement of one patient that his "face had swelled" also with a former attack of gonorrhœa renders improbable, at least in his case, the mere coincidence of mumps and gonorrhœa. It is noteworthy that no evidence of epididymitis or prostatitis was present at any time in either case. Both cases ended with resolution.

We must, of course, admit the possibility of direct local infection by way of Stenson's duct, contagious matter being lodged in the mouth by the finger or otherwise; and in the light of a case recently reported,* in which gonorrhœa (gonococci present in the discharge) was contracted by a connection *per os*, although there was no buccal inflammation to be detected, I regret that no search was made in my cases for micro-organisms.

I am, however, more inclined to consider these cases as due partly to general infection (as in the cases of inflammation of the fasciæ and of the sclerotic coat of the eye in gonorrhœal rheumatism), and partly to the so-called "sympathy" between the parotid and the genital organs. This "sympathy," however incomprehensible it may be to us as yet, seems to be an established fact.

Joal,† indeed, has tried to prove, from certain cases of amygdalitis complicated with oophoritis or orchitis, that there is a similar relation between the tonsil and the ovary or testicle. But in his cases it appears possible that both lesions were due to rheumatism, especially as the tunica albuginea was principally affected in the orchitis, and as the frequent dependence of amygdalitis upon rheumatism is acknowledged.

There can, however, be no doubt as to the relation existing between the parotid and the genital organs. It is shown by the physiological increase of the saliva in sexual excitement, and by the occasional disturbance of the parotid at the menstrual epoch, and for examples of the latter we are not entirely dependent upon the famous case reported by Peter.[*]

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* Read before the New York Clinical Society, December 17, 1886.

* "Lyon médical," November 1, 1885.

† "Arch. gén. de méd.," 1886, i, 513.

It is shown by the parotitis occurring after ovariotomy in cases in which the absence of septicæmia can be demonstrated. Thirteen such cases have been put on record (by Möricke,[†] Matweff,[‡] MacDonald,[#] Goodell,[‖] and von Preuschen[△]), and in nine resolution took place without suppuration. Goodell has also observed parotitis after an operation for lacerated cervix, no septicæmia being present—which, by the way, disproves von Preuschen's theory that this parotitis is due to a reflex from the peritonæum, instead of from the genital organs. Goodell is so strong a believer in this relation between the parotid and the genital organs that he ascribes to it the greater frequency with which the parotid is inflamed in septicæmia from operations upon the genitals, and parturition, as compared with septicæmia from other causes.

Finally, we may quote Billroth's[◊] case (which is, I believe, still unique), in which, after a slight contusion of the testicle, an orchitis developed and parotitis followed, both ending in resolution.

POST-GRADUATE INSTRUCTION IN GYNÆCOLOGY.[‡]

By HENRY C. COE, M. D., M. R. C. S.

My object in presenting this brief paper is to elicit an impartial discussion of a subject which has assumed no little importance of late, especially in this city. Although I may view it almost exclusively from a local standpoint, I feel sure that my deductions will be sufficiently general in their bearing to touch the experience of an audience every member of which has been, or is, practically, a teacher of gynæcology, an active or passive exponent of the principles which he imbibed at the Woman's Hospital. Doubtless we have all modified our views, yet there are some cardinal beliefs which we hold in common. But I do not wish to incur the charge of narrow-mindedness by looking at this question merely through the eyes of a disciple of a special school of gynæcology; let us lose sight of any particular system, and discuss the matter on the broad basis of common sense.

It is unnecessary to refer to the success which has attended our post-graduate schools; they have ceased to be experiments, and are beginning to win for themselves a place in the confidence of those who prophesied for them a brief exotic existence. It is not my purpose to set forth the merits and defects of these institutions, but simply to examine the objections which have been urged against post-graduate instruction in gynæcology, chiefly, it must be confessed, by those who have not made a personal study of the methods of teaching. It was perfectly natural to expect some antagonism between the regular medical colleges, running in their established grooves, and the post-graduate schools with their apparently unsystematic, irregular courses of instruction, but I believe that some of the most conservative members of the undergraduate faculties have begun to admit the possibility of one school supplementing, rather than antagonizing, the other. I might easily digress here, and enter into a defense of the institutions with which several of my hearers are connected, but such is not the aim of this paper. It is rather to analyze the unfavorable sentiments which prevail among the older specialists with regard to one department in the post-graduate schools, and to endeavor to prove that the prejudice is ill founded.

It was rather amusing to an unbiased observer to note the spirit of hostility that was manifested toward the post-graduate schools when the idea was first developed; the very men who acknowledged the value of the Vienna system doubted the possibility of carrying it out successfully in New York. They certainly could not foresee failure in consequence of the deficiency of clinical material, so that their prophecies of a *fiasco* must have arisen from a distrust of the ability of the faculties. I need only point to the present prosperity of both institutions in order to prove that the undergraduate schools do not absorb all the talent and energy in the profession.

Why are some of our prominent specialists skeptical as to the value of post-graduate instruction in gynæcology? As far as I have been able to learn, the objections are as follows:

1. It is difficult for these gentlemen to realize that the pelvic organs do not seem so mysterious to the general profession as they did in the days when the finger of Sims appeared to possess such marvelous intelligence, and that, while few can attain to his diagnostic skill, the average man (or even one who is "below the average") can learn to recognize morbid conditions of the uterus and its appendages with the same ease that used to appear almost supernatural. *Tempora mutantur, et nos mutamur in illis.*

2. Overlooking the fact that the elementary principles of gynæcology are readily appreciated by men who have already been trained by the actual practice of medicine to be better observers and imitators than young students, the gentlemen who criticise our system jump to the conclusion that the instruction is superficial, that the practitioners who attend lectures on diseases of women for a few months learn just enough to make them dangerous, and return home filled with an *ardor operandi* that may render them destructive foci in their native hamlets. This would be a telling argument, if it were true. If it were, I should be in favor of abolishing the department of gynæcology without an hour's delay. We shall see how far this objection holds good.

3. The inevitable consequence of this dabbling in gynæcology (as these gentlemen think) is that "familiarity" will

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[*] "Gazette des hôpitaux," 1868, No. 31. See Goodell, cited below.

[†] "Zeitschr. f. Geburtsh. und Gynäk.," v, 1880, 348.

[‡] "Ann. de gynécol.," xxiv, 1885, 105.

[#] "Edinburgh Med. Jour.," 1885, i, 1022.

[‖] "Trans. of the Amer. Gynæcol. Soc.," 1885, p. 211.

[△] "Deutsch. med. Wchnschr.," 1885, No. 51, 877.

[◊] "Chir. Klin.," Zürich, 1860–'67, p. 337.

[‡] Read before the Alumni Association of the Woman's Hospital at its third meeting.

"breed contempt," or, in other words, that special workers will cease to receive from the general profession that recognition to which their years of study and observation entitle them.

I shall only mention, in passing, the objection that is raised against the New York post-graduate schools on the ground that they not only divert out-door patients from the regular hospital dispensaries, but encourage an indiscriminate system of medical relief that fosters bad habits in those who can really afford to pay for professional services —a direct injury to the younger physicians. I admit that there is truth in the latter argument, but, in regard to the former, I can only add that I have little respect for a charity which aims only at increasing its statistics. I firmly believe that dispensary patients should be utilized for purposes of medical instruction, so far as can be done without injury to the patients themselves, or without outraging those natural feelings of decency and humanity which no gentleman requires to cultivate, since they are born in him. Narrow-minded medical men are responsible for the foolish prejudices of the laity in this direction. Yet the same men have studied in Vienna, and can not deny that they have profited by the instruction received in the great hospital, where every patient is a living illustration of the truth that "no man liveth unto himself, and no man dieth unto himself." But shift the scene to New York, and the case is different—why, I can not understand.

In reply to the weighty objections just mentioned, let me briefly call your attention to the salient peculiarities of post-graduate instruction in gynæcology as it is conducted in New York. These may be considered under three heads —viz., 1, The teacher; 2, The pupil; 3, The subject taught.

1. *The Teacher.*—True to the purpose of the institution, which is to teach practice and not theory, he is in every sense a practical man who comes straight from the bedside to the school, bringing the fresh results of the experience through which he has just passed. No staid professor is he, leaving his study, where with much research and no little "cribbing" he has prepared himself to charm his audience by his carefully-rounded periods, or to awaken thunders of applause by his moral platitudes, but a plain man speaking to plain men of that which appeals forcibly to the minds of his hearers, because they recognize its direct bearing upon the problems and emergencies that daily confront the practitioner.

Dwelling upon a theme in which he feels a strong personal interest, such a teacher ought to be earnest and enthusiastic, and hold his audience, for the very reason that they feel that he is giving them a leaf from his own diary, and not a series of excerpts from standard text-books. There is a heat-producing power in an extemporaneous speech, one that "speaks itself," as it were, which is wanting in the most labored and finished oration into which the writer has failed to throw his heart.

But, while a wise and earnest teacher may wield an immense influence for good in addressing an audience of advanced students, an ultra-enthusiast or (as one has irreverently expressed it) a "gynæcological crank" can do no little mischief. Whatever we may *believe*, it is not always wise to teach our peculiar ideas, as some man may undertake to apply our teachings literally with disastrous consequences. A lecturer's rash statements or hasty advice may be copied into a student's note-book and become law and gospel to him, when the speaker would an hour later disown the malformed offspring of his brain. The mandate, "Take heed how ye hear," might well be amended so as to read, "Take heed how ye teach." A good medical lecturer is undoubtedly born, not made; but the silver-tongued orator whose benches are always crowded may be a disseminator of false and dangerous theories, while he whose personal gifts are few may drop homely truths which produce a more permanent and healthy impression than those of his brilliant but less conscientious rival.

Throwing aside cumbrous theories, divesting the subject of pelvic pathology of the mystery that has been thrown around it, and teaching his students to study a gynæcological case in the same manner as they would investigate one in general medicine—in other words, laying great stress upon the exercise of common sense—is his unpretentious task, in performing which the lecturer can not be entirely a failure, even if he is not a success.

2. *The Pupil.*—Young physicians living in large cities are accustomed to refer in a scornful way to the "country doctor" as a synonym for one who practices medicine on the smallest possible margin of professional knowledge, whose thoughts never soar above his daily treadmill. To him the gonococcus has never been revealed, the cholera bacillus possesses no charms. Since there are villages, there must be country doctors, but the latter do not live—they simply vegetate, their existence uncheered by a weekly nap at the pathological society, their intellects never stimulated by foreign medical literature. This is no exaggerated picture of the country practitioner as he appears to the imagination of many a city brother; doubtless this notion is only a little less erroneous than that cherished by our country friend—that since the city resident has enjoyed larger opportunities than himself, ergo, he is wiser. The post-graduate students are largely from small towns in different parts of the country—a fact on which we are to be congratulated, because this implies that they do not feel that they have already imbibed all the wisdom extant. Moreover, they are practitioners, men who have been brought to feel their own deficiencies in view of the rapid progress of modern medicine, and have come to us with the honorable purpose of filling up the gap in their scientific studies, which has grown wider and wider each year under the pressure of active practice. Such students are not boys. We can no more compare them with medical undergraduates than we can compare the collegiate, whose world is contained within the narrow limits of the campus, with the careworn man who revisits his alma mater after the lapse of many years, and wonders if his ambition was ever satisfied with college triumphs. The lecturer feels a sort of satisfaction in addressing a class of practitioners, which is due partly to the fact that they are more or less familiar with the theme, and partly to a realizing sense of the influence which his words may exert upon men of mature judgment. This acts as a stimulus to the young lecturer, and at the same

time leads him to be very cautious how he ventures upon ground which he has not himself thoroughly surveyed. Questionable statements, harmless hyperboles, seldom produce any permanent injury upon the mind of the medical student. Even if he leaves the lecture-room with a fixed purpose to remove the first abdominal tumor that falls into his hands, and goes so far as to make out his list of ovariotomy instruments before the coveted opportunity occurs after graduation, experience inevitably leads to a wise distrust of his own surgical skill, and no harm is done after all. On the contrary, the practitioner who watches the steps of a capital operation this week, may undertake the same in a distant part of the country the week following; the spectators who to-day admire the ease with which you replace a retroverted uterus with the sound, go forth tomorrow to use the same instrument, but applying a dangerous amount of force, and without that "twist of the wrist" which looks so simple and harmless to the looker-on. In short, the man who teaches gynæcology to practitioners incurs no small responsibility, and sets in motion forces of which he knows not, since the seed which he sows is likely to bear fruit, and that speedily. A chance word of caution dropped in the lecture-room may save lives away off in Texas; your enthusiastic commendation of an operation may induce one of your pupils to attempt it with disastrous results. While I believe that a post-graduate audience is less impressionable than one composed of young students, and more accustomed to look at both sides of a question, the influence of an earnest lecturer (especially if he is an authority on gynæcology) is both far-reaching and permanent, for either good or evil. To no class of hearers, in my experience, is conservatism more acceptable, if presented in a proper manner. The pupil is all right. If there is any fault, it generally lies with the teacher.

3. *The Subject Taught.*—Gynæcology; but what system, and how taught?

In Vienna the peculiar ideas of each professor are stamped ineffaceably upon his clinic. No matter how brilliant or original his assistants may be, they seldom think of advancing any views save those of their chief. In our clinical schools there is more variety in the lectures. This is as it should be. If a young man simply re-echoes the words of his elders, without venturing to express an opinion of his own, he can hardly expect to make a very decided impression upon his hearers. He would be a narrow-minded teacher indeed who tried to make his students believe that the peculiar tenets and traditions of the Woman's Hospital included all that was worth knowing of practical gynæcology, or who taught that the rough manipulations in vogue in foreign clinics were superior to our own less heroic methods. No; the practitioner does not come to us to be told that one system is superior to every other, and that he should adopt this one to the rigid exclusion of all the rest. What he wishes to learn are such facts and methods of diagnosis and treatment as he will be able to apply directly in his own daily practice. The lecturer who spends his hour in dilating upon his pet theories and operations may interest his hearers, but he does not give them what they need. I have already referred to the possibilities for harm which are contained in the enthusiastic utterances of an attractive lecturer, when mounted on his favorite hobby, whether that hobby is a surgical, pathological, or instrumental one. His enthusiasm may not only blind his eyes to the weak points in his favorite theory, but may lead him to speak contemptuously of those who venture to entertain contrary opinions. I know of nothing less edifying than to hear a lecturer publicly ridiculing the opinions of a brother specialist, or even a co-laborer in the same institution. In a school in which several clinics are held in the same department the student must necessarily hear conflicting views, but there is some advantage even in this confusion, since he can select the best, and avoid extremes. Post-graduate instruction in gynæcology is literally clinical. You will all acknowledge that a man can learn more in five minutes by introducing his own finger into a vagina, than by listening as many months while another man describes the process in graphic terms. It is unfair to compare the results of three months' instruction in practical gynæcology with those derived from a residence of six times that period in the Woman's Hospital, yet I venture to affirm that not unfrequently the practitioner with his smattering of the subject reaches by a direct route the same conclusion as the interne after his long and valuable service, viz., that many intrapelvic affections should be treated with great caution, and that not a few should be left severely alone. Indeed, the regular attendant at the clinics has a certain advantage over the gentlemen at the hospital, because he has opportunities of studying the remote results of operations such as are not often enjoyed by the latter. Undoubtedly there are students who carry home a sad jumble of gynæcological facts and fancies, but I have too much confidence in the good sense and sound judgment of the class of men whom I meet every week to feel apprehensive lest they go away laboring under the delusion that they are finished gynæcologists. Unquestionably, there is room for improvement in the matter as well as in the manner of our lecturers. What the practitioner needs is not so much to witness a number of laparotomies, or to hear disquisitions on fine points in differential diagnosis. He wants to know how to find out what ails a suffering woman, and whether it will be wise for him to treat her, to let her alone, or to place her in the hands of some specialist. He wants to know how to fit a pessary, when to use it, and when not to use it. The proper treatment of a simple case of retroversion is a subject of infinitely more importance to him than the details of a hysterectomy. He will hardly attempt the removal of the first pair of prolapsed ovaries that greet him on his return from his winter's lectures, but the chances are that he *will* test the mobility of the first retroflexed uterus with the sound, as he has seen it done in the clinic. Our only rational course is to adopt at all times a wise conservatism. We ourselves may continue to take serious risks, as we all have done, sometimes with fortunate, sometimes with unfortunate, results, but let us at least refrain from recommending to the inexperienced doubtful or dangerous methods of procedure. We can not insist too strongly upon the wise rule laid down by the late Dr. Flint as the one that ought always to influence our treatment of disease—never to do anything that may make the patient worse. Is there one of us who, recalling his unsuccessful cases, does not devoutly wish that he had always adopted this suggestion?

If we are ourselves fully conscious of the importance of recognizing in what cases active treatment ought to be avoided, what more sensible course can we take than to impress this truth indelibly upon the minds of those who are in the most favorable position for doing harm through the practice of unwise gynæcology? This I take to be the true sphere of gynæcological instruction at the post-graduate schools—not to confuse men, by filling their minds with stray facts and fancies that are of interest only to the special worker, but to emphasize before them a few important facts, the more elementary the better. We can not tell them anything more instructive than our own mistakes, and how they may avoid them. We must descend to minutiæ. It is not enough to descant on the benefits to be derived from the hot vaginal douche: describe the procedure down to the smallest detail; if you do not, some of your hearers will be sure to remain in quite as dense ignorance of its *modus operandi* as the average dispensary patient, whose vaginal roof is never touched by the pint of luke-warm water which she daily injects into the lower part of the canal. It would seem as if the truth of Dr. Emmet's dictum regarding the importance of attending to details, in order to attain success in the practice of gynæcology, ought to be universally recognized at the present day; but it is not the case. If we succeed in teaching practitioners to apply this principle, we shall, I believe, accomplish more useful results than if we familiarize them with the conflicting views on the intra- and extra-peritoneal treatment of the stump after hysterectomy. We certainly consult the best interests of both our hearers and their patients more truly when we point out the contra-indications to hystero-trachelorrhaphy, than if we inspire the would-be gynæcologist with a burning desire to repair indiscriminately all the torn cervices that he has been "saving up" in his neighborhood. It is not necessary to dwell upon this theme. You see its bearing, and I hope, too, that you see that, although post-graduate instruction in gynæcology may be superficial, in the sense that the student is not graduated as an expert in uterine surgery, he is (or should be) taught the same conservative ideas which we have learned so well and disregarded only to our cost. I believe that in these schools a conscientious teacher can exert a strong influence for good; that his office (though not surrounded with the same *éclat* as the chair in a prominent medical college) is an honorable one, and his incentives to mental activity are not less keen than if he addressed a crowd of noisy students, instead of an audience of mature, serious men, who come to the lecture-room for meat, and not to hear "glittering generalities."

Gynæcology is not being lowered in the public estimation because it is ceasing to be the exclusive property of a limited circle of specialists, neither will this country be overrun with pseudo-gynæcologists in consequence of our efforts to instruct general practitioners in the rudiments of the science. If we are faithful to our trust, less, not more, harm will result from the wide dissemination of conservative views; any others we have no right to teach to men who are liable to misapply our instruction.

TREATMENT OF ACUTE PNEUMONIA.*

By DAVID PHILLIPS, M. D.

One afternoon, a few years ago, I was seized with a chill which lasted about an hour and a half, and was followed by dull, aching pains in the back and limbs, and pain in the right side. A feeling of intense prostration ensued. The next morning I was visited by Dr. William Thurman. I had then a slight, hacking cough, a temperature of 103° F., a pulse of 110, and some pain in the side, and was greatly prostrated. Dr. Thurman, upon examination, said he detected crepitant râles over the lower portions of the right lung, and that I was in for an attack of pneumonia. That night my temperature was 103·7°; the next morning it was 103°, pulse 110. There were crepitant râles over the right lung, and some dullness.

Dr. Thurman and I consulted regarding a change in the plan of treatment, but determined not to make any for another twenty-four hours. That night my temperature fell to 101°, pulse 98. The following morning (third day of sickness) temperature was 99·5°, pulse 90; and two days afterward, although feeling weak, I was able to attend to my work.

On the evening of the 26th of February, 1886, I was called to see Mr. M. He stated that he had had a chill about 4 p. m., which had lasted till 6, a severe headache, some pain in the right side near the nipple, and had felt so weak that he had had to go to bed. His temperature was 102°, pulse 98. On examination of the lungs, I did not detect anything.

February 27th.—Morning temperature 103°, pulse 106. He complained of great pain in the side, and had a slight, hacking cough. Examination of lungs showed crepitant râles in the lower lobe of the right lung. Evening temperature 104°, pulse 118.

28th.—Morning temperature 101°, pulse 104. Evening temperature 101·5°, pulse 104.

March 1st.—Morning temperature 99·5°, pulse 90. Evening temperature 100°, pulse 90. The next day the morning temperature was natural, and in a few days he was able to leave the house.

On August 26, 1886, I saw Miss E., who complained of feeling very chilly—in fact, she was shivering when I saw her—and said she felt very weak. She had no other symptoms. Temperature 100°, pulse 90.

August 27th, morning.—She complained of great prostration, but had no pain. Temperature 101°, pulse 100. Physical examination detected crepitant râles over the left lung. Evening: a hacking cough had made its appearance since last visit. It occurred at intervals, and caused her great distress. Temperature 103.5°, pulse 115. Well-marked dullness, bronchial breathing, and bronchophony were found over the lower surface of the left lung.

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* The term "croupous," introduced by Rokitansky, appears to the author to be in some respects best avoided. It was originally employed by Rokitansky to define a particular form of exudation, and in its application to pneumonia he drew a parallel between this disease and croup of the larynx attended by false membrane. The analogy appears to be an erroneous one in two aspects, for, in the first place, the pneumonia attending laryngeal diseases when false membranes are present is seldom seen in the form recognized as characterizing acute sthenic pneumonia, but is most commonly of the type termed broncho-pneumonia; and, secondly, there is no boundary-line of distinction between the forms of the disease characterized by a coagulable exudation in the vesicles and those where cell-products are mingled with some fluid exudation. The extreme types are, it is true, distinct, but every shade of gradation may be observed between them.—William Fox, M. D., in Reynolds's "System of Medicine."

28th.—Morning temperature 101.5°, pulse 108. Râles were heard over the left lung, but all signs of consolidation had disappeared. Evening temperature 103°, pulse 115. Signs of consolidation had returned, but not so marked as on previous evening.

29th.—Morning temperature 100.5°, pulse 108. Râles heard again over the lung, but all signs of consolidation had disappeared. Evening temperature 101°, pulse 108. No physical signs except râles. Two days afterward the temperature was natural.

I think the relation of these three cases is enough to prove the fact that pneumonia is not a self-limited disease. Similar cases have no doubt occurred in the practice of most physicians; in fact, they are mentioned, although briefly, in some medical works as cases of aborted pneumonia, notwithstanding that the same works declare that pneumonia is a self-limited disease.

It must, then, be conceded that a pneumonia may go no further than the stage of engorgement or congestion, and physicians would save themselves from troublesome questions if they called this first stage *pulmonary engorgement*, and not pneumonia, reserving the use of the latter term until consolidation has taken place.

I believe, therefore, that in a certain number of cases a pneumonia, if seen in its first stage, can, by appropriate treatment, be cut short. After consolidation has taken place, a certain length of time must, of course, elapse before resolution can occur, but even in this case I believe we can hasten it.

Although there is no doubt that a central pneumonia does take place without approaching the surface sufficiently near to give physical signs, I think it is a very rare occurrence, and that, in the great majority of cases, where a patient has all the rational signs of pneumonia but none of the physical, the lung is simply in a state of engorgement, and the patient recovers without consolidation taking place.

I saw a boy, aged ten, who was taken sick on the night of January 1, 1886, with vomiting and fever, his mother ascribing the illness to an attack of indigestion. The next day his temperature was 103°, and the only complaint he made was of intense headache. The temperature then oscillated between 103.5° and 105° until January 7th, when well-marked signs of consolidation appeared in the right lung. It would have been easy during the first week to call this a case of central pneumonia. I think in this case it was a question whether consolidation would or would not take place, some unknown influence determining in favor of consolidation; but it is to be conceded that if the boy had recovered on the seventh day of his sickness, he might, or would have been said to, have had a central pneumonia.

Suppose in a case like the foregoing another physician had been called in on the third or fourth day, and pronounced it a case of pneumonia; or suppose the family physician had so pronounced it, and the second physician, upon being asked if it was a case of pneumonia, replied that he could find no evidence of consolidation in the lung, the confidence of the family in the first physician would undoubtedly have been shaken, and, in the event of a fatal termination, he would have been accused of not understanding the case. Would it not be better, therefore, to call a case in this condition pulmonary engorgement or congestion, which it undoubtedly is, and wait for the evidences of consolidation before designating it pneumonia?

A case occurred to my knowledge only last month where the family physician made a diagnosis of pneumonia, and a consultation was called. The consulting physician told the family physician that he could not detect any physical signs of pneumonia, and that they had better watch the case a little longer before making a positive diagnosis. It seems that one of the family was concealed in the room and overheard the conversation, and, when the consulting physician told the family that he agreed with what had already been done, there was a lively time, the family insisting upon having two more physicians called in.

I divide the treatment of pneumonia into, first, the treatment of the stage of pulmonary engorgement or congestion, and, second, the treatment of pulmonary hepatization or pneumonia proper.

Treatment of Pulmonary Engorgement or Congestion.—This is commenced by administering twenty or twenty-five grains of the sulphate of quinine, combined with five or ten grains of calomel, given in capsules. The next morning one of the aconite group is exhibited. I prefer aconite, as less liable to interfere with the stomach. A favorite prescription with me is:

℞ Tinct. acon. rad.,
Tinct. belladonnæ, } .... āā ʒ ss.–ʒ j;
Spt. æther. nitrosi............. ʒ iij;
Liq. ammon. acet............... ℥ ij.
M. S.: A teaspoonful every two hours for an adult.

That night the quinine is again given, the aconite mixture being continued the next day and kept up till either recovery or hepatization appears, when it should be discontinued. The objects in giving the quinine and calomel will be so obvious to every one that the reasons for administering them need not be discussed here.

Although some writers object to giving any of the aconite group in pneumonia, for fear of increasing the liability to heart failure, I can not see any reason for fearing such a result when given in this stage—and it should be given in no other; and as by their action we quiet the nervous system and diminish the amount and force of the blood going through the inflamed lung, thus tending to diminish the inflammation and exudation, they seem to me to be the best agents to use in this stage. Of course the pulse should be carefully watched during their use.

For the pain in the side, the best remedy is the application of a few leeches over the painful spot, which generally results in giving great relief in a very short time. In case, however, this does not produce the desired result, hypodermics of morphine may be given, although I dislike to use opium if it can be avoided, as it blocks up the secretions, and also tends to produce head symptoms.

The chest should be enveloped in an oil-silk jacket lined with cotton batting, which should be fastened behind, it being easily opened there whenever examinations are desired.

Treatment of the Stage of Hepatization.—As soon as marked signs of consolidation appear, the treatment should at once be changed, and digitalis, ammonia, and the stimulating expectorants given as in the following:

℞	Tinct. digitalis*....................	ʒ j–ʒ ij;
	Syr. senegæ......................	ʒ iv;
	Syr. ipecac......................	ʒ ij;
	Ammon. carb....................	gr. xxxij;
	Ammon. chlor....................	gr. xxiv;
	Spt. æther. nitrosi..............	ʒ ijss.;
	Syr. tolu.........................	℥ jss.

M. S.: Teaspoonful every two or three hours for adults.

The purpose of this treatment is to strengthen the heart, to excite pressure on the blood-vessels of the diseased lung so as to make them pervious as soon as possible and thus hasten absorption, to favor the circulation of the blood through the body, to stimulate the glands and muscular fibers of the bronchial tubes, which, though weakened, are probably not completely paralyzed, and to increase the excretions and thus prevent the accumulation of effete material in the blood.

If the temperature is not above 103° F., no attempt had better be made to reduce it. If it rises to 104° or 104·5°, twenty to thirty grains of quinine should be given and an ice-bag applied to the back of the neck. If this does not answer, the chest should be wrapped in thick flannels, wrung out of ice-water, which should be changed as fast as they become warm, and the arms should be wrapped around in flannels inclosing powdered ice, or the rubber coil can be used. It should be remembered that whenever the temperature is to be reduced by the application of external cold, an ice-bag should be placed on the head, alcoholics freely administered, and the pulse carefully watched. If the temperature rises above 105°, nothing is so valuable as the cold bath, the patient being kept in it till the temperature falls to between 101° and 102°.

Regarding the delirium as a call from the system for stimulants, alcoholics and camphor — ten to forty grains daily—or musk should be given, and also cold applications made to the head.

If it is necessary to move the bowels, calomel had better be used, as least likely to upset the stomach.

If symptoms of weakening of the respiratory muscles appear, strychnine should be given hypodermically.

If symptoms of acute œdema occur, senega and ammonia should be dropped, dry cups applied, and a hypodermic of four grains of the hydrobromide of quinine given.

In cases of low temperature and irregular or feeble pulse, as also in the case of old people, alcoholics should be given from the commencement.

The period of crisis is one of great danger to the patient and should be carefully watched for. As soon as it occurs, alcoholics should be administered with milk at frequent intervals and kept up for hours.

As regards diet, I am in the habit lately of commencing the early use of Mariani's wine of coca, which I regard as an excellent food tonic. Peptonized milk, beef tea, meat broths, eggs soft boiled or raw, barley gruel, water gruel, sweetened whey, and kumyss can be taken, the food being given at regular intervals and in small quantities, and alternated as often as possible.

The room should be kept at a temperature as near 60° as possible, and ventilated frequently. There need be no fear of a pneumonia patient catching cold.

During convalescence quinine should be given, together with moderate amounts of alcoholics and nourishing food.

A CASE IN WHICH SARCOMA SIMULATED CARIES OF THE VERTEBRÆ.

By A. B. JUDSON, M.D.

The following case illustrates the difficulty of making a diagnosis between caries of the vertebræ and sarcoma involving the vertebral canal and intervertebral foramina:

The patient was a boy four years and eight months old when first seen on September 18, 1884, at the Out-patient Department of the New York Hospital. For two months he had suffered pain in the abdomen and back, crying a good deal, and wasting in flesh. His gait was stiff, and he was very careful when stooping. The seat of the pain and a slight prominence of the spinous processes, which proved to be unimportant, suggested caries of the upper lumbar vertebræ. He was seen the second time at his home twelve days later. In the mean time he had visited another hospital, where he had been measured for a spinal support, which, however, had not been applied. He had been in bed six days with paralysis of motion and sensation of the lower extremities. For four days it had been necessary to relieve vesical distension by the catheter. The pain in the back persisted. The bowels had been regular. The abdomen was greatly distended with flatus. There had been no œdema. There was a spasm the preceding day. The temperature had not exceeded 101° F. He died from exhaustion and after general spasms ten days later, his condition remaining about as above described. The urine, when first drawn, was heavily albuminous, and later was purulent and bloody. The paraplegia had partly disappeared. At the autopsy, which was performed under difficulties, the vertebræ were found to be normal. There were adhesions about the bladder. The right lung was easily broken down, and almost gangrenous in appearance. There was a well-defined tumor, about 2½ × 1½ × 1 inch, on the right more than on the left side, attached to the tissues covering the middle dorsal vertebræ. It was hard to the touch but soft upon section, and resembled fat in its color. The new growth entered the vertebral canal along the sheaths of five or six of the spinal nerves. Above the tumor and joining it was a prominent mass. It fluctuated, and on section was found to contain fluid and soft masses. Several lumps resembling the tumor in character, some as large as a chestnut, were found attached to the connective tissue of the abdominal cavity, but not especially on the mesentery. An irregular row of small growths of the same kind were found along the inner side of two or three of the long ribs on the right side about their middle.

The symptoms above described were apparently caused by pressure on the spinal nerves from partial occlusion of the intervertebral foramina, and probably by invasion of the vertebral canal by the sarcomatous growth and interference with the vesical center.

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* Convallaria may be substituted for the digitalis if the stomach will not bear it.

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VIRCHOW ON MYXŒDEMA.

THE singular condition known as myxœdema has, as is well known, been made the subject of extensive investigation by English observers, notably Horsley and Halliburton. It is interesting, therefore, to note Professor Virchow's criticisms of their labors and opinions, published in a recent number of the "Berliner medicinische Wochenschrift," and embodying the results of his study of this strange affection during a visit to London last October. Although the London Clinical Society has collected reports of a hundred and ten cases that have occurred in England, and many have been published in France, Virchow states that only three cases have thus far been observed in Germany. He examined Horsley's preparations, and was convinced of the presence of lymphoid tissue in the thyreoid body, but he can not concede that that tissue imparts a hæmatopoietic function to the organ. Admitting the truth of Horsley's statement that the blood in the thyreoid veins is seven per cent. richer in leucocytes than that of the corresponding arteries, it does not follow, he says, that this increase of leucocytes is constant, and a temporary increase may be produced by a variety of causes. He acknowledges the mistake he made, before he had had an opportunity of examining preparations and observing cases, of looking upon myxœdema as due to a mucoid change similar to that which fat undergoes in the process of atrophy. But in the preparations shown him in London he detected an active cell-growth in the cutaneous and subcutaneous tissue, with increased bulk, while the superficial layers of the cutis remained intact. The process had none of the characters of atrophy; it was rather of an irritative kind, closely resembling inflammation. He was reminded by what he saw of the similarity to the condition of phlegmasia alba dolens or to pachydermia. He would consider the experimental and chemical researches of Horsley and Halliburton, which show that removal of the thyreoid is followed by an accumulation of mucin in the blood, the tissues, and the secretions—a condition of mucoid dyscrasia, or myxæmia—as certainly an important advance in our knowledge of the subject. These observations, however, require further confirmation before Horsley's conclusions on the function of the thyreoid can be accepted.

Virchow agrees to the recent theory of the relationship between myxœdema and cretinism, and would look upon the latter as belonging to the former. In this connection, Horsley's experiments of thyreoidectomy on apes, which were followed by a condition analogous to the state of cretinism, are convincing. The monkeys experimented upon passed through three consecutive stages—the first characterized by neurotic, the second by what Horsley styles "mucoid," and the third by atrophic phenomena. All of them, when let alone, succumbed in from five to seven weeks. He draws attention to the ill effects, observed twenty-five years ago, of too rapid wasting of the thyreoid under the iodine treatment of goître. They were variously explained; many held them to be due to iodism, while others—and to these the author belonged—thought that they were in some manner connected with the "goître cachexia." He dwells at some length on the association between cretinism and goître, and emphasizes the fact that an investigation carried out by a commission showed that goître was absent in at least a third of the cretins. The relationship between cretinism and what is known as "congenital rickets" is equally obscure. Two interesting cases of this sort, observed by the author, are cited. One of the children was large and presented all the characters of myxœdema, with considerable enlargement of the thyreoid body, but no other appreciable change. The other child was small and atrophic, and had no myxœdematous characteristics, but there was extreme atrophy of the thyreoid, such as has been described by Ord as occurring in myxœdema. He refers to Küster's recent observation of cachexia strumipriva following thyreoidectomy in a boy, and concludes that, while observations on the part played by the thyreoid in myxœdema require further proof, the subject promises to repay careful study.

MINOR PARAGRAPHS.

DR. BOWDITCH ON SECTARIANISM IN MEDICINE.

ON the occasion of the seventy-fifth anniversary of the founding of the Rhode Island Medical Society, last June, the venerable Dr. Henry I. Bowditch, of Boston, read an address entitled "The Past, Present, and Future Treatment of Homœopathy, Eclecticism, and Kindred Delusions which may hereafter arise in the Medical Profession, as viewed from the Standpoints of the History of Medicine and of Personal Experience." The address has now been published in the form of a pamphlet, including a long letter written in 1857 to Dr. Bowditch by Dr. James Jackson, of Boston, at that time the recognized leader of the profession in New England. Dr. Jackson's letter is a singularly clear and forcible defense of his own course in declining to treat sectarian practitioners on the plan of non-intercourse, and a demonstration of the folly of making a *casus belli* out of a disagreement as to matters of opinion. With this view Dr. Bowditch wholly coincides, and he traces in a most interesting manner the origin and progress of medical sects to the absurd and detrimental doctrines and practices formerly in vogue with the profession at large. It is only by virtue of their having been persecuted, he argues, that the sects have been enabled to hold to their existence and to raise up strife and bitterness in place of honorable emulation.

UNIFORMITY IN OBSTETRICAL NOMENCLATURE.

IN behalf of the Edinburgh Obstetrical Society, Professor A. R. Simpson is sending circulars of inquiry to the various obstetrical teachers and authors in Great Britain and Ireland, with the view of obtaining their opinions as to the desirability of attempting some degree of uniformity in the use of obstetrical terms, as to the possibility of accomplishing the object, and as to the fitness of a short list of terms and definitions that accompanies the circular. It is to be hoped that this undertaking will meet with abundant co-operation by the British profession, and it must be said that the designations given in the list are, so far as we can see, open to no serious objection. The great merit of the list is that no attempt is made in it to multiply terms to meet all conceivable conditions—a fault that, we are convinced, has blocked the progress of many an effort to secure uniformity in scientific nomenclature.

THE EASTERN DISPENSARY.

We would call attention to an announcement that will be found in our advertising columns, setting forth a noteworthy change that is to be made in the constitution and status of the attending staff of the dispensary. It will be seen that salaries are to be given the appointees, and that daily service will be required of them. While the sums to be paid can not be called large, they are sufficient, in view of the certainty of their receipt, to lift much of the anxiety that is apt to weigh upon a young practitioner, and give a fresh foothold in the race for prosperity. The appointments are, as we have taken pains to ascertain, to be made on the basis of fitness alone, every reasonable means having been taken to do away with the possibility of favoritism. This new step is only one of several indications that have come to our knowledge that the Eastern Dispensary has systematically adopted a policy that can not fail to increase its usefulness and heighten the esteem in which it is held by its beneficiaries.

A NEW CENTRALBLATT.

No observer of our recent literature can have failed to be struck with the constantly widening field of the study of micro-organisms in their relations to the health of plants and animals. Perhaps the most notable sign of this growing attention to the subject is the appearance of a new journal devoted wholly to it, the "Centralblatt für Bacteriologie und Parasitenkunde," edited by Dr. Uhlworm, of Cassel, with the collaboration of Privy Councilor Leuckart, of Leipsic, and Staff Physician Loeffler, of Berlin, and published in Jena by Gustav Fischer. Several of the early issues of the "Centralblatt" have reached us, and we have been much interested in their examination. The first one opens with an article by Dr. Rudolph Leuckart, on the "Bothriocephalus Question." A feature of remarkable excellence in the new journal is to be found in the extensive bibliographical lists prepared by the librarian of the Imperial Health Office, Dr. Arthur Würzburg.

THE CARTWRIGHT PRIZE.

The committee of the Alumni Association of the College of Physicians and Surgeons, charged with the duty of passing upon the merits of essays submitted in competition for the Cartwright Prize, has acted wisely, we think, in extending the time during which essays may be presented. We do not suppose that this action will call out new competitors—*i. e.*, those who have not before thought of competing—but it may serve to enable some painstaking authors to reconsider a conclusion to which they had unwillingly come, that the creditable completion of their essays within the time originally prescribed was impossible. It is to be hoped, therefore, that an essay really worthy of the prize will be forthcoming.

ITEMS, ETC.

The Hospital-Steward Corps of the Army.—It is stated that, in making arrangements to carry out recent Congressional action affecting the corps, the Surgeon-General has under consideration the question of whether it is better to limit appointments on the corps to men who have seen military service, or to appoint civilians; also whether it would not be well to drop the designation of hospital-steward for that of apothecary.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 22, 1887:

DISEASES.	Week ending Mar. 15.		Week ending Mar. 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	6	3	10	4
Scarlet fever	43	8	51	11
Cerebro-spinal meningitis	3	3	1	1
Measles	155	27	170	20
Diphtheria	96	48	79	35
Small-pox	11	0	5	3

The late Professor Flint.—A brass mural monument is to be placed in Bellevue Hospital, bearing this inscription:

"In Memory of

"Austin Flint, M. D., LL. D.

"Entering the profession with broad culture and thorough education, he remained an active physician to the last day of his life. As a medical writer, he added to the knowledge of the American profession. As a teacher, he was loved and respected by thousands of his pupils in all parts of the country. As physician to Bellevue Hospital for twenty-five years, he contributed largely to its reputation by his character, acquirements, labors, and wise counsels.

"Erected by the Commissioners of Public Charities and Correction.

"H. H. Porter, president; Thomas S. Brennan, Charles E. Simmons."

The Baltimore Microscopical Society has elected officers for the year 1887–'88 as follows: President, Professor George L. Smith; vice-president, the Rev. Edward Huber, D. D.; secretary and treasurer, Dr. Robert T. Wilson.

The Woman's Medical College of Pennsylvania.—The commencement exercises were held on Thursday the 17th inst. The degree in medicine was conferred on thirty candidates. The address to the graduates was delivered by Dr. Frances Emily White, Professor of Physiology.

A Letter from a Naval Surgeon has reached us, concerning which we are uncertain whether it was intended for publication or simply for our own information. It deals with the diagnosis in the case of an officer of the navy who died recently. If the writer (with whom we can not communicate privately, as we do not know his address) will acquaint us with his preference in the matter, we shall feel obliged.

Medical Registration in Maine.—The Legislature of the State of Maine recently passed a bill entitled "An Act to Regulate the Practice of Medicine," one of the provisions of which required the registration of practitioners of medicine. After the passage of the bill it was supposed that it had been signed by the Governor, but it now appears that he has vetoed it. The physicians of Portland freely express their condemnation of the Governor's course, but most of those who have spoken on the subject charitably assume that his action was inspired by injudicious advice rather than by evil intention.

The Prospects of Physicians in Germany.—A Berlin dispatch to one of the New York newspapers contains the statement that an organization of physicians in Germany has issued a document in which young men are advised not to enter the medical profession, for the reason that "the prospects of doctors are becoming worse yearly."

The Remuneration of the French Professors, according to the "Gazette hebdomadaire de médecine et de chirurgie," has been fixed as follows: *Paris.*—Twenty-five professors of the first class, 15,000 francs each; seven of the second class, 12,000 francs each. *The departments.*—Three professors of the first class, 11,000 francs each; four of the second class, 10,000 francs each; eighteen of the third class, 8,000 francs each; eleven of the fourth class, 6,000 francs each.

Society Meetings for the Coming Week:

MONDAY, *March 28th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

TUESDAY, *March 29th:* Boston Society of Medical Sciences (private).

WEDNESDAY, *March 30th:* Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield).

THURSDAY, *March 31st:* Cumberland, Me., County Medical Society (Portland).

FRIDAY, *April 1st:* Practitioners' Society of New York (private).

SATURDAY, *April 2d:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass, Medical Society.

Proceedings of Societies.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Annual Meeting, January 17, 1887.

The President, Dr. CHARLES A. LEALE, in the Chair.

Election of Officers.—Dr. JOHN SHRADY was elected president; Dr. J. R. McGREGOR, vice-president; and Dr. P. B. PORTER, secretary.

History of an Epidemic of Dysentery.—Dr. H. M. BIGGS read a paper in which he gave the history of an epidemic of dysentery in the almshouse on Blackwell's Island during the years 1884, '85, and '86. The number of deaths in the female department for June, 1884, was zero; 1885, 1; 1886, 13. For July, 1884, 4 deaths; 1885, 8; 1886, 17. For August, 1884, 9 deaths; 1885, 5; 1886, 4. For September, 1884, 10 deaths; 1885, 4; 1886, none. It would be seen that dysentery prevailed to a considerable extent in 1884 and 1885. It was supposed to be due to age, close quarters, coarse food, and especially hot weather. The sanitary condition was pronounced good by the sanitary authorities. But in 1886 there occurred an unusual number of cases of dysentery, the number of deaths in July reaching 17. The author then went on the service, when the weekly death-rate from dysentery was five or six, while the number of new cases weekly was from twelve to fifteen. This did not include the milder forms, which were numerous. Believing that dysentery was an infectious disease, due to some definite cause, the author made a close investigation. He found the wards much crowded, and the ventilation was far from good; aside from these facts, little fault could be found, for the wards were very clean, the food, though coarse, was good and well cooked, the water was the Croton, and the drainage seemed to be good. It was found that the severe cases were mainly in a certain ward, the blind ward, and the patients of this ward used a closet separate from the rest. This closet was found to be in an exceedingly bad condition; it was not flushed, there was great accumulation of fæces, and it gave forth an intolerable stench. It had not been cleaned since the preceding autumn, and it could not be completely emptied under the best of conditions. The closet was being constantly used by about eight hundred persons. At Dr. Biggs's request it was immediately washed out and disinfected, and the beds and vessels of the infected patients were cleansed. With the exception of one case, all the deaths from dysentery occurring after this were in patients who had previously contracted the disease. In other words, only one death occurred in patients who took the disease after the author began his service, and this death was not from dysentery, but from an accidental complication, namely, cerebral hæmorrhage. From August 10th to September 5th there were no new cases. No more conclusive proof could be required to show that the cause of the epidemic was in this closet. But he would offer other proof. A number of autopsies were made, and the lesions found were always those of severe follicular and diphtheritic dysentery. The treatment found most successful before the disease had become chronic consisted in a combination of castor-oil and opium, and a strict milk diet. In the later stages bismuth was used in large doses, or nitrate of silver and opium, and in some cases enemata of starch and opium, with cocaine added. The history of this epidemic proved that dysentery was due to an active specific micro organism present in decomposing excrements. The author had not been able to demonstrate the micro-organism in this epidemic. He thought it might possibly be one of the organisms of putrefaction. The difficulty of isolating it from the stools was very great, owing to the almost innumerable germs constantly present even in the normal condition.

The PRESIDENT, referring to the persistency of the germs giving rise to dysentery, said he knew of houses in the city which, although apparently in the best condition, were shunned by renters because of the great death-rate which had occurred in them.

Dr. P. B. PORTER referred to an epidemic of dysentery in a village on Long Island where he, in connection with the sanitary authorities, had found sufficient cause in drainage from the closets into the wells.

Indiscriminate Cutting of the Meatus Urinarius.—Dr. J. W. S. GOULEY read a paper which was a plea against the indiscriminate cutting, and especially the over-cutting, of the meatus urinarius. He had seen the penis of many men put in the condition of an old rubber hose, with the nozzle larger than the rest of the channel. Such treatment rendered the penis and its urethra inelastic, incapable of properly expelling the urine. He also disapproved of the passage of large sounds, overdistending the canal.

His remarks were supported by Dr. ALFRED L. CARROLL and Dr. JOHN SHRADY.

Extra-uterine Gestation.—Dr. GRAUER presented specimens from a patient who had died somewhat suddenly. At the autopsy a clot of blood was found in the peritoneal cavity, covering a fœtus apparently of the seventh or eighth week. The site of rupture was near the body of the uterus, on the posterior wall of the Fallopian tube. He called attention to three points: The presence of the decidua vera in the uterus, the sympathetic enlargement of the body of the uterus, and the thinness of the posterior portion of the Fallopian tube at the site of rupture. The woman had borne two children.

Dr. JANEWAY presented, through Dr. Biggs, a specimen illustrating secondary multiple carcinoma of the liver with the primary growth at the junction of the cystic with the common duct—a very unusual situation.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of November 16, 1886.

The President, Dr. George R. Fowler, in the Chair;
Dr. C. E. De la Vergne, Secretary.

Perineal Abscess and Urinary Fistula, with Cases.—Dr. F. W. Rockwell read a paper on this subject. [See page 337.]

Dr. Jones said that there were two points which Dr. Rockwell emphasized—the importance of an early recognition of the origin of the trouble, and prompt treatment. A short time ago he had presented a patient before the Brooklyn Pathological Society in which a perineal abscess had originated in one of the urethral follicles. He had not been treated early, and when he was treated the result had not been successful. He had had a stricture upward of a year, which from time to time had given rise to considerable obstruction. There had been a flow of urine, but when he came under treatment there was complete arrest of the flow, and it had accumulated in the bladder. The patient had died. He had, however, a complication of kidney disease not very marked. He thought that if the importance of incising the perinæum early were recognized, greater success would attend the efforts of the surgeon.

Dr. Rand asked whether Dr. Rockwell had experienced any difficulties after the operation—whether a fistula had been left after an operation for any appreciable length of time.

Dr. Rockwell said that the greater majority of cases had been very much like those he had described, an acute abscess and fistula existing for only a short time. He had operated on chronic fistulæ sent into hospital for treatment a number of times. One case only he recalled to mind where a fistula had remained unhealed for years, which had been operated on a few months ago, but it was yet too early to record the final result in this case. The fistula remaining after operation was so slight that it was hard to make the patient come to the office for treatment, and annoyed him very little and only occasionally, and it was a question whether it was not closed entirely. That was the only exception to the statement that he had made. They had always recovered with this exception, and he thought this one would. Judging from the experience of others and his knowledge of the literature of the subject, it was not at all rare to have fistula persist, but, as a rule, this was for the reason that had been stated—*i. e.*, the caliber of the urethra was not preserved at its full value. In the great majority of cases the fistula would be closed if this result of operative measures, properly conducted, was maintained.

Dr. Rand said that he had asked the question, because during the last year he had operated in a case that had proved an exception to the rule of prompt closure of the wound after perineal section, and he wished to know if Dr. Rockwell had had a like experience with any of his cases. A gentleman had consulted him nearly a year ago with symptoms pointing to stricture and perineal abscess. Some two years previously the patient had had similar symptoms, but less severe, and unaccompanied with retention of urine. At that time he had been treated by his family physician with poultices, etc. The abscess had finally evacuated itself through the perinæum, and a fistula, through which passed urine and pus, had been left for some weeks, but it eventually had closed. Since then he had had more or less difficulty in urinating, and when he sought medical aid there were retention of urine, a stricture of the membranous urethra, admitting only a whalebone guide, and symptoms of perineal abscess. External perineal urethrotomy was done in the usual way, about an ounce of pus evacuated, and the stricture freely divided. The stricture was dense and fibrous, cut like cartilage, and was about three fourths of an inch in length. The patient made a good recovery, but urine in small quantity continued to pass through the perineal opening for four or five months after the operation. In spite of the application of various local stimulants, and the persistent use of a full-sized sound, a small opening still existed. It was impossible to pass the finest and most flexible probe or bougie far enough to reach the urethra, but he thought there must still be a communication with the urethra, although the patient had been unable to detect any urine issuing from the opening at any time during the last four months. A steel sound, 20 English, passed readily into the bladder, and, after the urethra had been let entirely alone for two months, a *bougie à boule* of the same size failed to detect any contraction. The original abscess and the cicatricial tissue resulting therefrom, through which the incision was in part made, might account for the slow and imperfect closure of the wound.

Dr. Rand had proposed that treatment some months ago, but the patient said he experienced no inconvenience, would not know that anything was wrong if he were not told, and objected to any such procedure.

Dr. Rockwell replied that that was just the class of cases in which the patient should be taught to use the catheter habitually to draw off the urine. By stimulating the fistula with concentrated tincture of cantharides, or by the use of the galvano-caustic wire, and dilating the urethra by passing proper-sized sounds or urethrotomes, much good could sometimes be done. Sir Henry Thompson had reported cases of fistulæ of much greater size than the one spoken of as cured in this way. He reported a case where the opening was one third of an inch in diameter, and the cure was effected by this plan. If the case was annoying, this treatment by stimulating the fistula would probably succeed.

Dr. Jones asked a question which was rather subsidiary to the main one, and that was in regard to the author's experience in the treatment of strictures in the pendulous portion of the urethra after division of the perinæum. He thought it was Mr. Harrison who had said that the treatment was much more rapid—that the urethra could only be treated antiseptically where the perinæum had been previously opened.

Dr. Rockwell thought that he would operate at once, unless from some condition of the patient or other cause rendering such a course inadvisable. He did not think the risks would be increased by so doing.

Dr. Jones said that the point he wished to bring out was that the cure of a stricture was accomplished more readily by having the urine pass through the perineal wound when the wound was not irritated by the passage of the urine.

Dr. Rockwell was familiar with the fact that that was a hobby of Harrison's. He had never had any serious results after ordinary urethral operations for stricture that he could not account for by disease of the kidney, or something in the nature of the disease or injury for which the operation was done.

NEW YORK CLINICAL SOCIETY.

Meeting of December 17, 1886.

The President, Dr. A. A. Smith, in the Chair;
Dr. B. Farquhar Curtis, Secretary.

A Case of Laryngeal and Pulmonary Phthisis with an Uncommon Cardiac Murmur.—Dr. W. H. Katzenbach related the history of the case of F. S., male, aged seventeen years, a native of Brooklyn, and by occupation a bartender, who consulted him at the Out-door Department of Bellevue Hospital, October 19, 1886. His father and mother had died at the age of thirty-three of consumption. A brother and sister younger than he were living, and in good health. The patient's habits were temperate. He had never had rheumatism. Two years ago he had cough and expectoration, which had lasted two or three weeks. Since then he had had occasional similar attacks, but of shorter duration. Six months ago he had regarded himself as well. Four or five months ago his present illness had begun with "tickling in the throat," cough, and vomiting in the evening. Expectoration had been slight. Two months later, the previous symptoms continuing, he had become quite hoarse rapidly. He had consulted a physician, who had "cut his palate." This had relieved the hoarseness for a time. Soon the cough and expectoration had increased; hoarseness had become more pronounced; appetite had failed; flesh and strength had diminished; fever during the day, and perspiration at night, had appeared; and he had been obliged to give up work.

On the speaker's first examination, the left side of the chest anteriorly was depressed, and its movements were restrained. Dullness was present over the whole left upper lobe, most marked over and adjacent to the heart. The respiration was broncho-vesicular over the region of dullness, and in addition there were heard high-pitched subcrepitant râles and there was increase of vocal resonance. Over the unaffected lobe of this side, and over the whole of the right side, the resonance was good. The respiratory murmur was obscured by abundant coarse, dry and moist râles. The heart impulse was perceived in the fourth and fifth left intercostal spaces, and was accompanied with a thrill or fremitus. The lowest point of beat was in the fifth space within the nipple-line. On auscultation, the sounds were very intense over the solidified lung, and over the region of greatest consolidation a rough murmur was heard, superficial and accompanying the first sound. It was limited to this locality, was not conveyed to the left nor toward the base of the heart. It was not modified by respiration, being as intense during inspiration as during expiration. It was probably produced by the movement of the heart against a solidified lung covered with a roughened pleura. On the evening of the meeting the large mucous and dry bronchial râles were not present. They had not been heard for a month. The remaining physical signs detailed above persisted. His appetite and strength were improving, and his disease was tolerated remarkably well. December 4th he had a slight blood-spitting. His hoarseness was due to laryngeal phthisis, third stage, for which he was under the care of Dr. E. H. Griffin.

Dr. C. D. Scudder expressed the opinion, with which Dr. W. B. Anderton agreed, that the murmur was pericardial.

The President considered it pleural, but thought it impossible, in most cases, to distinguish between pleural and pericardial murmurs.

Perforation of the Vermiform Appendix.—Dr. R. J. Hall presented two specimens, one of which was from the body of the patient the history of whose case had been reported at the meeting of the society in May, 1886; the other from the body of a patient in whose case he had recently performed laparotomy for peritonitis, and had removed the vermiform appendix (the perforation of which had caused the peritonitis), but had failed to save the patient.

Dr. J. W. Wright asked if any operation had been performed upon the enlarged axillary glands in the man's case.

Dr. Hall replied that the patient had refused to have anything done.

A Three-Months Fœtus.—Dr. W. D. McKim presented a specimen with the membranes intact, with no placenta. There had been no undue hæmorrhage, and the woman had not had any for several weeks.

Dr. Wright had seen a seven-months fœtus with the membranes intact. He thought that in Dr. McKim's case there might easily be some placental tissue still retained.

The President said that he remembered several cases in which the placenta had been retained for two months or more, with an interval of two weeks or more in which there had been no hæmorrhage.

Dr. McKim said that he did not think it possible for the membranes to present such a clear external surface if they had been peeled from the placenta.

Parotitis complicating Gonorrhœa.—Dr. B. F. Curtis read a paper on this subject. [See page 346.]

Dr. Hall thought that the notion of metastasis of inflammation caused by any sort of nervous influence was losing ground daily, for all the cases included in this category could be explained by a metastasis of the infecting microbes. He considered that many bacteria had a selective power, choosing the particular organ which they would attack, and it would therefore not be strange that the parotid alone should be inflamed. He did not think that the fact that the inflammation ended in resolution disproved its septic character.

Three Cases of Hydrocele in the Female.—Dr. Wright related the histories of the following cases:

Case I.—Mrs. F., American, the mother of four children, was seen March 10, 1868. There was a fluctuating tumor of the size of a pigeon's egg just above the inner half of Poupart's ligament on the left side, which had existed for several years. It had never been very troublesome, but had recently increased in size, and was then somewhat painful at times. There was no impulse, and it was irreducible. On aspiration with a fine needle, an ounce of clear, straw-colored serum was withdrawn. A compress and bandage were applied and rest was ordered. It refilled in two days. It was again aspirated, three drachms and a half of fluid were withdrawn, and the inside of the sac was scarified with the point of the needle. Three days later the sac refilled and inflamed. Lead and opium lotion was applied. In one week the fluid was reabsorbed.

Six months later (September) the patient reported that there had been no return.

Case II.—Mrs. P., aged twenty-eight, married, English, was seen November 14, 1883. She had had two children, the eldest then three years of age. There was a soft fluctuating tumor of the size of a pigeon's egg in the right inguinal region, just above the middle of Poupart's ligament. The tumor seemed to consist of two portions—viz., a larger sac superficially, and a smaller one somewhat more deeply situated. There was no impulse, and the tumor was irreducible. The patient said the swelling had occasionally presented itself ever since the birth of her first child, and that she had been in the habit of pushing it back with her hand.

Three weeks before, while lifting one of her children, the present tumor had suddenly made its appearance, and she had been unable to reduce it as before; since then she had suffered more or less from colic, flatulence, constipation, etc. The tumor was sensitive to the touch, and the skin covering it somewhat inflamed from her frequent efforts at reduction. The patient was ordered to bed, with hips elevated, and an ice-bag to be applied to the swelling at intervals until the next day.

November 15th.—The inflammation was lessened, and the tumor softer and smaller, but still irreducible. The larger sac was aspirated with a hypodermic needle and two ounces of clear straw-colored serum were drawn off. The smaller sac, evidently having no communication with the first, was aspirated separately and found to contain half an ounce of similar fluid. The inside of both sacs was scarified with the point of the needle. After evacuation no hernia could be detected. A compress and spica bandage were applied, and rest in bed for one or two days was ordered.

18th.—Small sac had refilled. Aspiration drew off six drachms.

The patient was seen October 12, 1884. She had been confined since the last report. There had been no further trouble from the hydrocele.

July, 1886.—No return.

CASE III.—A Swedish woman, aged forty-two, unmarried, servant, was seen in consultation with Dr. C. E. Quimby in the summer of 1885. A fluctuating tumor about as large as the last joint of the thumb was found just above and parallel to Poupart's ligament on the right side, which had existed for some time, and which was troublesome from a sense of weight and dragging, hardly amounting to pain. The patient said she had been in the habit of putting it back herself, and stated that six or eight years before she had been operated on for hernia in the same place.

Dr. QUIMBY punctured the tumor with a hypodermic needle and drew off half a drachm of clear, amber-colored serum, which seemed to exhaust the sac. It, however, speedily filled again, and the little operation was repeated six times during the next eight days. Dr. Quimby informed the speaker, December 6, 1886, that he had frequently seen the patient since then—the last time a few days before—and that, to the best of his knowledge, the sac had never refilled or given any further trouble.

Dr. WRIGHT mentioned the following points as being of clinical interest:

1. The rarity of the affection. It had been ignored by most surgical writers until within the last few years. Fewer than forty cases had been reported.

2. The liability of its being confounded by the surgeon with irreducible hernia.

3. Its resemblance to strangulated hernia when suddenly inflamed.

4. The diagnosis being easily settled in doubtful cases by the hypodermic needle.

Multiple Sarcoma.—Dr. Wright reported the case of a trunk-maker, aged fifty, American, seen in 1877. A tumor of the size of an almond, that had developed in the right lateral half of the upper lip, under the wing of the nose, was removed in February, 1879.

In August, 1881, a similar growth was removed from near the inner canthus of the right eye, and one week later another from the right lateral half of the lower lip. In February, 1882, the last one, having returned, was again removed. In October, 1883, another was removed from the outer canthus of the right eye. In April, 1884, a growth of the size of an English walnut developed from the right wall of the pharynx (exact locality uncertain), and was removed with the cold snare by Dr. Seely, of Newark. In October, 1885, Dr. Rand and Dr. Seely, of Newark, removed a tumor of the size of a duck's egg from the substance of the right cheek.

Summary of Operations.—February, 1879, right half of upper lip; August, 1881, inner canthus of right eye; August, 1881, right half of lower lip; February, 1882, right half of lower lip; October, 1883, outer canthus of right eye; April, 1884, right wall of pharynx; October, 1885, substance of right cheek. Total number of operations, seven.

October 25, 1886.—The patient's condition was as follows: 1. A tumor of the size of a goose-egg in the substance of the right cheek. 2. One in each upper eyelid, of the size of an almond. 3. One in the left half of the upper lip, of the size of an almond. 4. One in the right axilla, of the size of an English walnut, which had been there for one year. 5. A lobulated growth, larger than a hen's egg, from the right lateral wall of the pharynx, apparently involving the tonsil and the arches of the palate, and connected with the base of the tonsil. General health fair; had lost some flesh lately; ate and slept well, and attended to his business. He had no pain and no glandular involvement, but there was a somewhat cachectic appearance.

On October 27th, under ether, the speaker removed the large tumor from the right cheek, exposing most of the muscles of the side of the face, such as the masseter, buccinator, zygomatics, levator labii superioris alæque nasi, etc.; also the growth from the right upper eyelid. Union by first intention took place throughout, and the patient was discharged in one week.

The structure of the tumor of the cheek varied from hard and firm to friable, and from that to semi-liquid or pultaceous. Microscopically, it presented the ordinary features of round-celled sarcoma, with a varying amount of connective tissue, and without well-marked alveolar spaces.

The points of clinical interest, from the standpoint of differential diagnosis, were:

1. Duration as compared with carcinoma.

2. Tendency to local recurrence after removal.

3. Absence of lymphatic complications, even after long duration, as compared with carcinoma.

4. Absence of secondary deposits in internal organs, so far as could be ascertained, or in external parts remote from the original seat of the disease (except the right axilla), as compared with carcinoma.

5. Absence of special constitutional participation until late in the disease (nine years in this case).

6. Disposition to increased rapidity in growth, date of recurrence, structure, and general resemblance to cancer in proportion to the period of existence and frequency of removal.

On December 4, 1886, the tumor of the pharynx was partially removed by Dr. D. B. Delavan, with the galvano-caustic knife, after preliminary tracheotomy. Discharged December 17, 1886, in good condition.

Multiple Asymmetrical Spongy Exostoses.—Dr. Wright mentioned the case of C. R., aged eleven years, whose parents were living and in good health. No hereditary history. He was born at seven months and a half of utero-gestation; was very small and emaciated at birth (weight not given); was nursed for three months and subsequently "bottle fed"; had "nursing sore mouth," and was regarded as a weak, feeble baby up to six months of age; had no teeth until one year old, then cut a number in rapid succession. When two years old he had severe epistaxis, lasting twelve hours, and leaving him very prostrate; had a similar attack between the fifth and sixth year, and another one year before. There was nose-bleed "by spells" for two days.

In general appearance he was tall, slender, but well formed. Complexion light, eyes blue, hair brown, teeth irregular from crowding, countenance intelligent and bright, and head large, but well formed. Occipito-frontal circumference, twenty-one inches; occipito-mental circumference, twenty-four inches. The spine was straight. The inferior angle of the left scapula was unduly prominent. The chest was well developed and generally symmetrical.

Further investigation revealed the presence of no fewer than ten exostoses connected with the different bones of the skeleton, as follows:

One, of the size of a pigeon's egg, on the inner surface of the right femur, one inch to the left of the middle line in front, and three inches above the articular surface of the inner condyle. Occasionally while running, and when the leg was strongly flexed, "something would catch on this lump," and, being unable to extend the leg, he would fall down. He could release the limb by "taking hold of it with his hands."

One, of the size of a hickory-nut, on the inner side of head of the right tibia, one inch below the articular surface.

One, of the size of a large pea, on the palmar surface, near the ulnar border of the lower end of the left radius, half an inch above the wrist joint.

One, of the size of a large pea, on the anterior surface of the left fifth rib, just below the left nipple.

One, of the same size as the last, and just below it, on the anterior surface of the left sixth rib.

One, of the size of a filbert, on the inner surface of the right os brachii, just below the insertion of the pectoralis major tendon.

Two, each of the size of a pea, on the middle of the spines of the scapulæ.

Two, of the same size as the last, on the posterior border of the acromial end of the clavicles.

The tumors had been noticed for the last two or three years.

On the right side the three largest long bones were selected for the single tumors, and, with the exception of the tibia, the tumors were situated at a distance from the epiphyseal lines.

On the left side three comparatively small bones were selected for the single tumors, and in all of these the tumors had developed close to the epiphyseal line, as in the radius, or near the junction of cartilage with bone, as in the ribs, while in the two sets of double or symmetrical tumors the exostoses were situated, in the case of the clavicles, in bones which were among the earliest to complete their ossification, and whose acromial extremities were not developed from a separate center, but were a part of the center for the shaft, and which consequently had no epiphyses at these extremities.

The spines of the scapulæ were also in most cases ossified at birth, together with the other chief portions of the bone, the posterior borders, the inferior angles, the coracoid and acromial processes, ossifying and joining the bodies of the bones at a later period.

The points of clinical interest were:

1. Spongy exostoses were generally supposed to develop at the epiphyseal lines.
2. They most frequently occurred at the age of puberty.
3. When multiple, they were said to be distributed, for the most part, symmetrically.
4. The lower end of the femur, both ends of the tibia, and the upper end of the os brachii, were the sites usually selected.

The present case was, therefore, somewhat unique in regard to the age of the subject, the number and locality of the tumors, the bones selected and relation to epiphyses, want of symmetry, etc.

Foreign Body in Stenson's Duct.—Dr. Wright also reported the following case: January 13, 1886, Mr. D., American, aged thirty-eight, farmer, a man of intelligence and good habits, was brought to his clinic by Dr. H. S. Broadhead, of Walden, N. Y., and gave the following history: Three months ago, while eating a chestnut, he felt something prick the inside of his left cheek; attempting to dislodge it with his tongue, it gradually receded into the tissues. Three days later the parotid was swollen and painful, and pus began to discharge from the orifice of Stenson's duct, and had continued ever since. He believed that a living worm had taken up its abode in his cheek.

A probe was easily passed the full length of the duct, but failed to encounter any foreign body. The orifice of the duct was then freely excised, and a small amount of dark, gritty material, imbedded in its walls, was removed with a sharp scoop. A few days later the parotid became acutely inflamed, and an abscess formed, and was opened externally. The pus contained the small bearded tail of a chestnut, together with a ragged piece of necrosed tissue, which was regarded by the country people as the body of a defunct thousand-legged worm, and was so reported in the local papers. The patient made a good recovery.

Dr. Hall asked as to the duration of the sarcomatous tumor before any increased growth took place. He had seen two cases which had been quiescent in this way for twenty years, and two for six years. He had also seen a recurrence of the growth after removal, after an interval of seven years, and many similar after somewhat shorter periods. The question arose as to whether these tumors were sarcomatous from the beginning, or changed in their nature.

Dr. Wright replied that in his experience this period of long duration before rapid growth took place was a marked characteristic of sarcoma, as distinguished from carcinoma; as were also the tendency to local recurrence, the gradually shortening intervals between recurrences, and the gradually increasing malignancy of structure to be seen microscopically in the successive recurrent growths. This last point explained the confused state of the pathology of tumors, for the stroma of a sarcoma might gradually assume an alveolar structure resembling carcinoma.

Dr. H. M. Biggs said that frequently in the examination of a tumor the first sections resembled sarcoma, but, when a large number of sections from all parts were examined, the characteristic stroma of carcinoma would be found. He thought this fact and careless examination might explain some of these cases, and yet he also had seen a case in which the tumor had been quiescent for eighteen years, but examination on removal proved it to be a mixed round- and spindle-cell sarcoma.

Dr. Hall could not agree that it was the stroma of carcinoma which was characteristic; he considered the cells alone as characteristic.

Dr. Wright also thought that the distinction between carcinoma and sarcoma lay in the cells.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of December 9, 1886.

The President, Dr. Benjamin F. Westbrook, in the Chair.

Dr. A. H. Buckmaster, Secretary.

Carcinoma of the Pyloric Orifice of the Stomach.—Dr. James Ingalls presented a specimen from the body of a patient who had come under the care of Dr. E. H. Hoxsie, November 4, 1886, with the following history: W. W., aged sixty-seven, carpenter, temperate; family history, as far as could be ascertained, good. The patient had always enjoyed excellent health up to last April; he then began to complain of anorexia, nausea, and vomiting, also a slight cough. Soon he began to emaciate, but had no pain in the epigastrium or anywhere else. During the summer he was treated by one or two physicians for "consumption." Gradually the vomiting became worse, the matter consisting for the most part of dark mucus and particles of undigested food; once or twice there had been hæmatemesis; the bowels had been constipated. When Dr. Hoxsie took the case, November 4th, the patient was much emaciated and unable to retain any food upon the stomach. In spite of the fact that there had been no pain, Dr. Hoxsie had made the diagnosis of carcinoma. The patient died November 10th, and the speaker was requested to make the autopsy.

Autopsy about twenty-four hours after death: Body much emaciated; rigor mortis well marked; abdominal walls considerably retracted. Stomach distended and containing about forty ounces of very dark grumous fluid. Pylorus so nearly occluded by a carcinomatous growth that nothing of a larger caliber than a common-sized lead-pencil could be introduced. The walls of the stomach were considerably thickened for two or three inches above the pylorus. The duodenum was not involved. The lungs and spleen were normal. The liver was somewhat enlarged; otherwise it was apparently normal.

The speaker wished to call attention to the fact that the whole course of the disease had been painless. Delafield stated that pain was present in 92 per cent. of these cases, therefore the absence of this symptom was not *always* a sufficient reason for excluding carcinoma.

The President remarked that if Dr. Delafield referred to complete absence of pain, his statistics were not too high; but that slight pain was not uncommon. He had frequently discussed this point with the late Dr. Armor, who did not think the complete absence of pain would enable one to negate the diagnosis.

Dr. Mosher asked if the mass could be felt from the outside, and was answered that it could not.

Ruptured Stomach and Ileum.—Dr. G. M. Minor presented a specimen with the following history:

A school-boy, ten years of age, was brought in the ambulance to St. Peter's Hospital. He had been run over by a heavy truck, the wheel or wheels passing diagonally across his abdomen from left to right. He had vomited a quantity of undigested food, and urinated before coming to the hospital. When seen by the speaker he was suffering from shock, with an axillary temperature of 97° F. and a pulse of 128. He was conscious but very restless, and complained of slight pain in the region of the bladder. He was given an anodyne, and a large poultice was applied to his abdomen.

At 3 p. m., three hours after admission, he was restless and complained of pain; he was given ♏xv of Magendie's solution of morphine.

6.15 P. M.—Temperature 99° F., and pulse 104. Has been vomiting. No pain.

10.45 P. M.—Boy vomited; complained of no pain, although no Magendie had been given since 3 p. m. He had frequent desire to micturate, but there was no urine in the bladder. A soap and oil enema was given, with little or no effect. His respirations at this time were 50. The extremities were cold, and the axillary temperature was 103°; the pulse could not be counted. The pupils were somewhat dilated. He was given aromatic spirits of ammonia, ♏viij, hypodermically. His breathing gradually became more shallow, and at 11.45 p. m. he died. The only sign of any injury on the body was a very slight abrasion midway between the anterior-superior spinous process and the umbilicus on the left side.

Post-mortem examination showed the peritoneal cavity distended with fluid and undigested food, the stomach empty, with a rupture in the lesser curvature, and extending in the long axis of the organ. The intestines were ruptured in the ileum. The kidneys were congested.

Dr. Minor had also made an autopsy for Dr. Whiting in a case giving the following history:

On March 4, 1886, Theo. D. fell from a wagon and was dragged for some distance through the street. He complained of pain in the lumbar region, and had several contusions on his body and one on his face, and was suffering from shock, but was perfectly conscious. He lived about six hours.

At the autopsy the abdominal cavity was found to be filled with a bloody fluid. The intestines were completely severed in the iliac portion. The omentum was ruptured in several places. There had been considerable subperitoneal hæmorrhage. The right lobe of the liver was ruptured on the lower side in four places. The heart and lungs were normal.

Dr. Jones referred to recent observations by Dr. Freeman on the value of frequent micturition as a diagnostic symptom in these cases.

Dr. Wunderlich said that the difficulty was to distinguish between the shock caused by a severe contusion and that arising from rupture. Dr. Poland had reported three cases of ruptured stomach, four cases of ruptured duodenum, sixty cases of ruptured jejunum, and five cases of rupture of the large intestine. The jejunum nearly always ruptured at its junction with the duodenum. It was thought that the fixed position of the gut in this situation explained this tear. Hoffmann explained the rupture of the intestines by their being full and the force bursting them open. There had been reported a case where the rupture had occurred from vomiting, although there had been no previous disease.

The President thought that the rapid elevation of temperature could not be explained by the injury. He would like to know if the ear had been examined.

Dr. Minor said that it had not.

The Relationship between Cardio-vascular and Renal Disease.—A paper with this title was read by Dr. Glentworth R. Butler. [See p. 341.]

The paper was discussed by the President, Dr. Mosher, and Dr. Jones.

PHILADELPHIA CLINICAL SOCIETY.

Meeting of February 25, 1887.

The President, Dr. James B. Walker, in the Chair.

Dr. Mary Willits, Reporting Secretary.

Artificial Feeding of Infants.—In introducing the subject, the President said that all would admit its importance, and that it depended upon (1) the inability of the mother to afford nourishment, (2) the demands of the child for the materials for growth, repair, and heat-production, and for protection from indigestion and the numerous disorders of malnutrition. The prominent indications of the non-agreement of any food were excessive colic, vomiting, and diarrhœa. The results were seen in loss of flesh, strength, vivacity, and color; non-development of the general body, or of parts, as of the teeth; retardation of infantile accomplishments, psychical or physical, or even loss of those which had existed. One or many of these conditions might exist, and call for attention on the part of the physician to the imperative needs of the little patient. In choosing a diet there was no established law, save that the food should be easily digested, non-irritating, and suitable for nourishment and heat-production. If the infant had been nursing its mother, the quantity might be alone at fault. In all such cases artificial food should be made to supplement and not replace the natural supply. The amount of artificial food must vary with each case, from every alternate feeding to two or three feedings daily. Should the quality of the mother's milk be at fault, or should she be unable to nurse her child from any other cause, a complete substitute must be furnished. Here unquestionably the best, because furnishing the most rational substitute, was the wet-nurse. But, rational though it was, it had objections which were sometimes insurmountable. Among these were the expense incurred, the difficulty of getting one whose milk was altogether satisfactory, or, this agreeing, the unsatisfactoriness of the individual herself, who, reins in hand, might, if inclined, drive the family to distraction. Apart from this, many mothers objected to having their little ones nurse at other breasts than their own, even when the substitute was cleanly in person, character, and habits, and much more so if doubt existed, as it often must, upon these scores. While not decrying wet-nurses, indeed while maintaining that for some infants they were the only means of salvation, the speaker thought that in most instances they were not indispensable.

In choosing a substitute for human milk for healthy children, the speaker did not approve of the so-called infant-foods, manufactured on a large scale, and kept on the druggists' shelves. These substances, many of which had much virtue, found a sphere in the management of the sick, but, as a rule, might be eschewed in arranging a food for the well. For most babies condensed milk answered best for the first three to six months of life. Here, again, a choice might be made. There were several varieties of this food, most of which were supplied in quantities to grocers and druggists, and lay for an indefinite time on the shelf or counter, during which time they were liable to deterioration. This was not a matter of theory, but had been proved in more than one instance by an attack of severe indigestion and diarrhœa on using the contents of a new can. The brand most satisfactory in the speaker's experience was Canfield's, which was manufactured in Philadelphia, and was for sale only at the manufacturer's office, where its freshness and purity were guaranteed. Or, if the sweetness of the condensed milk was an objection in an individual case, the "evaporated cream," a partially condensed milk prepared by the same firm, might be used, having it served fresh every day, or every alternate day. Unquestionably, condensed milk was preferable for the young infant to the fresh (?) milk furnished by the middleman in our large cities. If a child taking condensed milk was constipated, a small quantity of Mellin's, Horlick's, or Nestlé's food might be used in each bottle, and would usually be all-sufficient. At least, until a food had proved satisfactory, the infant should be weighed at the end of each week, and should gain from three or four ounces to a pound weekly. If severe colic, vomiting, or diarrhœa occurred without cause—such as teething or exposure—some change was indicated. This would usually be the case, where condensed milk was the diet, somewhere from the third to the eighth month. The addition of oatmeal to the food might be all that was needed. It should be thoroughly cooked for three hours, then strained through a cloth, producing a white, semi-translucent substance, of about the consistence of starch as used by the laundress. Of this from one to three tablespoonfuls might be added to each bottle, according to the age of the child and its power of digestion. Lime-water was an important addition to the artificial food, and should be used continuously for the first ten or twelve months. In most instances fresh cow's milk would have to be substituted for the condensed milk when the latter disagreed, or this, if obtainable pure, might be used from the first. This should be diluted to suit the age, and there should be added sugar, lime-water, and from a teaspoonful to two tablespoonfuls of cream to each bottle, varying the amount to suit the condition of the bowels. After the third month, or even before, some of the oatmeal gruel, prepared as already directed, might be added. In cities all the water used in preparing the food should have been previously boiled. Sometimes an irritable state of the bowels, induced by one of many causes, might be benefited by the substitution for a few hours of barley-water, arrowroot-water, or gum-arabic water, and, on resuming the milk-food, one of the above-mentioned waters might be used as the diluent, instead of plain boiled water. Sometimes the use of peptonized milk, diluted with barley-water, or the addition to the milk-food of the "peptogenic milk powder" of Fairchild Brothers & Foster, might be required for a shorter or longer period. In the artificial feeding of infants the plain nursing-bottle, with a pure rubber nipple, was better than spoon-feeding, giving exercise to the masticatory apparatus, and stimulating the salivary function to more rapid development.

The subject was discussed by the different members, and the experience of each one was that cow's milk, in some form, was the best food for a child who must be artificially fed.

Dr. Anna McAllister spoke of some interesting experiments which had been tried at the New York Infant Asylum under the supervision of Dr. J. Lewis Smith, where, in several autopsies on artificially fed infants, it was found that in those fed on starchy food the pancreas was very small, seemingly arrested in its development, while in those fed upon condensed milk the organ was normal in size.

Hydrochloride of Pilocarpine in Uræmic Convulsions.—Dr. Edward R. Stone reported the history of a case occurring in a child six years of age, in which convulsions had occurred during an attack of nephritis following scarlet fever. A hypodermic injection of one twelfth of a grain of the drug had given satisfactory results. The child had been in convulsions all day, but they were speedily checked by the administration of the remedy, salivation and diaphoresis setting in almost immediately. Basham's mixture was used afterward, and the child made an uninterrupted recovery.

Book Notices.

A Clinical Manual of the Diseases of the Ear. By Laurence Turnbull, M. D., Ph. G., Aural Surgeon to the Jefferson Medical College Hospital, etc. With a Colored Lithographic Plate and Numerous Illustrations on Wood. Second revised Edition. Philadelphia: J. B. Lippincott Company, 1887. Pp. xxii–17 to 567. [Price, $3.]

The first edition of this work was published in 1872, and the author informs us in the preface that in the fifteen years which have elapsed seventeen hundred copies have been sold. This second edition contains very little that is new. The brief introduction of eight pages has been rewritten, but Chapters I to XIX, inclusive, are entirely unchanged, having been printed *verbatim* from the first edition. At the end of Chapter XIX, on deaf-mutism, fourteen pages of new matter have been added on the subject of the education of deaf-mutes. Chapter XX, which is a *résumé* of the causes, prognosis, and treatment of the more frequent diseases of the ear, has been rewritten and enlarged. Chapter XXI, on desquamative inflammation of the external auditory canal, membrana tympani, and middle ear, on contraction of the external auditory canal, and on the functions of the membrana tympani, is new. Chapter XXII, on syphilis and mumps as causes of disease of the internal ear, on the surgical operations upon the mastoid, and on malarial otitis, is also new. But these last three chapters consist mainly of reports of cases, and are of but little value. The author makes the rather astonishing statement that he has never seen or known of a case of ear disease developed by an overdose of quinine, for such cases are by no means very rare, and a number of them have been carefully reported by most competent and reliable observers. The author is to be commended for his statements in regard to the uselessness of calcium sulphide in purulent disease of the mastoid and middle ear, and also for his condemnation of the dangerous operation recommended by Sexton for the relief of chronic purulent inflammation of the middle ear. An appendix to the book treats of cocaine as an anæsthetic agent, of Sheppard's solution of the peroxide of hydrogen and boric acid in chronic purulent inflammation of the middle ear, of diphtheritic inflammation of the nasal passages, and of the best methods of illumination of the ear and nasal passages, and contains some good illustrations.

Diseases of Tropical Climates. Lectures delivered at the Army Medical School. By William Campbell Maclean, M. D., C. B., Surgeon-General, late of the Indian Army, etc. London and New York: Macmillan & Co., 1886. Pp. ix–340. [Price, $3.]

It is a little curious in reading this work on the diseases of India to find that almost every chapter treats of the diseases common in this country. We have chapters on malarial fevers, typhoid, febricula, yellow fever, dengue, cholera, sunstroke, diarrhœa, and dysentery, and a considerable space devoted to abscess of the liver. Most of these chapters, while clearly written and containing sound views, are no better than those found in many other works. It is needless to speak of them in detail. In regard to the mode of spread of cholera, the author is decided in his views that the poison passes from one person to another through the medium of food or drink contaminated by excreta. He does not seem to regard Koch's bacillus as being conclusively proved to cause the disorder. The chapters on diarrhœa and dysentery well repay study, as they contain much of practical importance to physicians in this country. The same may be said of the article on abscess of the liver and its surgical treatment. Taken as a whole, the book is a satisfactory one. The style is concise and interesting, and one is impressed with the frankness and fairness of the author in dealing with disputed points.

BOOKS AND PAMPHLETS RECEIVED.

A Case of Ante-partum Hæmorrhage at Term; Recovery. By Augustus V. Park, M. D., of Chicago. [Reprinted from the "Journal of the Americal Medical Association."]

Practical Pathology: an Introduction to the Practical Study of Morbid Anatomy and Histology. By John Lindsay Stevens, M. D., Assistant to the Professor of Clinical Medicine in the University of Glasgow, etc. New York: Macmillan & Co., 1887. Pp. xvi–266. [Price, $1.75.]

Litholapaxy in Male Children and Male Adults. By Surgeon-Major D. F. Keegan, M. D., Dub. Bengal Medical Service. [Reprinted from the "Lancet."]

Cyclopædia of Obstetrics and Gynæcology. Anatomy of the Internal and External Genitals, Menstruation and Fecundation, Normal Pregnancy and Labor, being Volume I of a Practical Treatise on Obstetrics. By Dr. A. Charpentier, Adjunct Professor at the Faculty of Medicine, Paris. Translated under the supervision of, and with notes and additions by, Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. In Four Volumes. Two Hundred and Sixty-seven fine Wood Engravings and Four Colored Plates. New York: William Wood & Co., 1887. Pp. x–3 to 509.

The Medical Student's Essentials of Physics and Chemistry. By Condict W. Cutler, M. S., M. D., Physician to the New York Dispensary, etc. New York: J. H. Vail & Co., 1887. Pp. xi–468.

A Compend of Electricity, and its Medical and Surgical Uses. By Charles F. Mason, M. D., Assistant Surgeon, U. S. Army. With an Introduction by Charles H. May, M. D., Instructor in Ophthalmology, New York Polyclinic. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xv–17 to 108. [Price, $1.]

A Compend of Obstetrics, especially adapted to the Use of Medical Students and Physicians. By Henry G. Landis, A. M., M. D., late Professor of Obstetrics and Diseases of Women in Starling Medical College, etc. Third Edition. Thoroughly revised; with new Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. viii–9 to 118.

The Determination of the Necessity for wearing Glasses. By D. B. St. John Roosa, M. D., LL. D., Professor of Diseases of the Eye and Ear in the New York Post-graduate Medical School and Hospital, etc. Detroit: George S. Davis, 1887. Pp. 73. [The Physicians' Leisure Library.]

Granular Lids and Contagious Diseases of the Eye. By W. F. Mittendorf, M. D., Ophthalmic Surgeon to the New York Eye and Ear Infirmary, etc. Detroit: George S. Davis, 1887. Pp. 110. [The Physicians' Leisure Library.]

Fourth Annual Report of the New York Skin and Cancer Hospital.

The Treatment of Hernia by Subcutaneous Injection. By W. B. De Garmo, M. D., Instructor in the Treatment of Hernia at the New York Polyclinic. [Reprinted from the "Medical Record."]

Remarks on the Relation of Menstruation to the Sexual Functions. By William M. McLaury, M. D., New York. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

Periostitis. By N. Senn, M. D., Milwaukee, Wis. [Reprinted from the "Philadelphia Medical Times."]

Can the Cæsarean Section be safely substituted for Craniotomy in the United States at the Present Time? By Joseph Taber Johnson, M. D., Washington. [Reprinted from the "Journal of the American Medical Association."]

Annual Report of the Health Officer of the City of Burlington, Vt. January 1, 1887.

Certain Peculiar Features of Bronchitis as it occurs in Children. By S. Henry Dessau, M. D., New York. [Reprinted from the "Archives of Pædiatrics."]

Miscellany.

The Treatment of Phthisis by Enemata of Hydrogen Sulphide.—At a recent meeting of the Philadelphia County Medical Society, the president, Dr. J. Solis-Cohen, said that he had expected to exhibit Morel's apparatus for administering gaseous rectal injections, according to Bergeon's method, in diseases of the respiratory passages and in blood-poisoning; but, as it had not been forwarded from the Custom-House, he would show a substitute made in imitation. The object in view was to supply to the venous circulation an antiseptic, such as sulphureted hydrogen, in sufficient doses to be effective; a result impossible when it was supplied directly to the arterial current, as that plan would poison the patient. Sulphureted hydrogen inhaled in far less than sufficient doses would suffocate the patient; taken by the stomach, it would produce other serious results. Administered by the bowels, however, and entering the venous current already deteriorated by organic refuse, it was quickly eliminated by the respiratory tract, which thus became subjected to its beneficial local antiseptic effects without subjecting the system at large to injury, as when it was thrown into the arterial current. In other words, the parasite was killed, and not the patient.

Its beneficial effects in phthisis were explained by the action of the gas on the suppurative and septic surfaces, and not by any influence on the *Bacillus tuberculosis*; the consumption proper, the exhaustion, being due to the suppuration and to the consequent septicæmia, and not immediately to the bacillus, which, while it produced the destruction of tissue, did not produce the morbid phenomena. The method of administration took advantage of the discovery announced by Bernard, in 1857, that toxic material introduced into the economy through an organ at a distance from the arterial system could not penetrate into the arterial system, because it was eliminated before that system could be reached. Volatile substances were eliminated by the pulmonary alveoli.

The antiseptic substance employed was preferably sulphureted hydrogen. This was propelled by means of a current of carbonic acid. It was important that the carbonic acid be freshly made, and that the injection be made without any admixture of atmospheric air, the presence of which would cause griping.

The carbonic-acid gas evolved from the action of dilute sulphuric acid upon sodium carbonate was collected in a rubber bag previously emptied of air by rolling it. This bag was then connected with a hand-ball compressor, by means of which the gas was propelled through natural sulphurous water in a sort of Wolfe bottle, driving off the sulphurous gas with it through a tube, the terminal extremity of which had been passed into the rectum. Within less than a minute the escape of the gas by the lungs could be detected in the breath.

The beneficial results produced in pulmonary phthisis by Dr. Bergeon, and reported last July to the Académie des sciences, had been confirmed by Professor Cornil, in a communication, last October, to the Académie de médecine, by numbers of French physicians, and by Dr. Hughes Bennett, of Mentone. Bergeon stated that the patients he considered practically cured had no more expectoration, and only dry auscultatory signs of cicatrizing cavities, or other cicatricial results of old lesions. Some of them had become able to resume tolerably laborious employment, with full maintenance of the amelioration they had acquired.

In most patients, it was said, there was a marked diminution of cough, expectoration, and night-sweats within two or three days. Nevertheless, the trifling expectorations of those apparently practically cured continued to contain bacilli. This fact might be taken both as an indication that the immediate danger in phthisis was less from the bacilli than from the septicæmia which they set up, and as an indication that this protective treatment, when successful, should not be discontinued until the general healthiness of the tissues was sufficiently restored to resist the further development and sustenance of the bacillus.

In the discussion, Dr. William Osler said that a patient at the University Hospital had lately very nearly died after an injection of a mixture of carbon dioxide and sulphureted hydrogen. Evidently the amount of sulphureted hydrogen which was given must be small. At the Biological Society, of Paris, some experiments had been related which showed that even a few cubic centimetres were sufficient to poison a good-sized dog. In the experiences which had been related in French journals, the odor of sulphureted hydrogen was readily observed in the breath, but he had not noticed this in any of the Blockley patients. This was an exceedingly interesting, not to say comical, method of treating phthisis, but it was too early to say what the results were likely to be. Certainly, however, in Dr. Bruen's hands, at the Philadelphia Hospital, they had been extremely good.

The Ninth International Medical Congress.—The following scheme of subjects for papers and discussions in the Section in Medical Climatology and Demography is announced: I. Importance of the study of climatology and demography in connection with the science of medicine. II. What constitute determinate climatic characteristics? III. The effects of climate on the human race as manifested in local demographic conditions; and of the several elements of climate as shown by coincident meteorological, morbility, and mortality statistics. IV. The question of acclimation. V. Relative advantages of mountain and seaside resorts for recuperative purposes and as palliative or curative in certain diseased states of the system—segregation *versus* aggregation of invalids at health stations. VI. The therapeutic value of natural mineral waters. VII. Accurate records of prevailing sickness in any community a necessary factor in any comprehensive system of vital statistics. The responsibility of governments to amply supply their people with the climatic and vital statistics of their respective countries. VIII. Collective investigation, apart from aiding the study of the natural history of disease, as contributive of numerical data having a demographic bearing, 1, as to the kinds and proportions of prevailing diseases; 2, as to the absolute amount of daily sickness and consequent loss of time, occupation, etc. IX. Medical nomenclature considered in its practical relations to vital statistics. X. The melioration of demographic conditions effected by preventive medicine. Influence of the physical well-being of a population upon its economy. Offenses against moral and civil law in their medical relations to demographic circumstances.

The New York College of Pharmacy.—The fifty-seventh annual commencement exercises will be held at Steinway Hall on Tuesday evening, the 29th inst.

The Medicine of the Talmud.—Dr. Carl H. von Klein, of Dayton, Ohio, informs us that, having often been urged by physicians to translate and publish those portions of the Talmud that relate to medicine and hygiene, provided that, prior to the undertaking, he receives a thousand subscriptions for the book, at a rate not exceeding $1 for each hundred pages of the book, Dr. von Klein may be addressed at 110, East Second Street, Dayton, O.

The Paris Faculty.—According to "L'Union médicale," M. Lannelongue has been elected to succeed the late M. Béclard as a member of the Academic Council.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality," for February, the whole number of deaths reported during the month was 451, including 1 from cholera morbus, 3 from cholera infantum, 30 from croup and diphtheria, 2 from cerebro-spinal meningitis, 1 from dysentery, 1 from erysipelas, 9 from typhoid fever, 2 from pyæmia, and 3 from septicæmia.

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending March 17th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending February 26th corresponded to an annual death rate of 21·3 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest death rate was recorded in Nottingham, viz., 13·5, and the highest in Huddersfield, viz., 33 in a thousand.

London.—One thousand six hundred and ninety deaths were registered during the week ending February 26th, including 52 from measles, 17 from scarlet fever, 14 from diphtheria, 35 from whooping-cough, 10 from enteric fever, 17 from diarrhœa and dysentery, and 1 from cholera infantum. There were 466 deaths from diseases of the respiratory organs. Different forms of violence caused 55 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 20·9 in a thousand. In greater London, 2,052 deaths were registered, corresponding to an annual death rate of 19·8 in a thousand of population. In the outer ring, 12 deaths from measles and 4 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending February 26th, in the sixteen principal town districts of Ireland, was 29·5 in a thousand of population. The lowest rate was recorded in Armagh, viz., 0, and the highest in Kilkenny, viz., 42·3.

Dublin.—Two hundred and eight deaths were registered during the week ending February 26th, including 2 from scarlet fever, 2 from whooping-cough, 5 from enteric fever, 3 from simple continued and ill-defined forms of fever. In forty instances the cause of death was uncertified, there having been no medical attendant during the last illness. The deaths from all causes corresponded to an annual rate of 30·7 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending February 26th was 22·5 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Greenock, viz., 11, and the highest in Aberdeen, viz., 33·7 in a thousand. The aggregate number of deaths from all causes registered was 562, including 30 from measles, 17 from scarlet fever, 3 from diphtheria, and 33 from whooping-cough.

Germany.—The deaths registered in fifty-one cities of Germany, having an aggregate population of 6,696,302, during the week ending February 12th, corresponded to an annual death rate of 24·5 in a thousand. The lowest rate was recorded in Carlsrühe, viz., 13·6, and the highest in Frankfort, viz., 44·4 in a thousand. During the week ending February 19th, the deaths from all causes in fifty cities corresponded to an annual rate of 24·3 in a thousand. The lowest rate was recorded in Carlsrühe, viz., 14·4, and the highest in Bochum, viz., 39·8 in a thousand.

Gibraltar.—Four hundred and two deaths were registered in the fixed civil population, which was estimated at 18,381 during the year 1886, corresponding to an annual death rate of 21·8 in a thousand. In the military population, which was estimated at 5,234, 64 deaths were registered, corresponding to an annual rate of 12·2 in a thousand. The aggregate number of deaths from all causes included 5 from whooping-cough, 13 from diphtheria, 6 from enteric fever, 4 from epidemic diarrhœa, and 1 from dysentery.

Calcutta.—Two hundred and thirty-seven deaths were registered during the week ending January 22d, including 18 from cholera, 62 from fevers, 38 from bowel complaints, and 30 from tetanus.

Guayaquil.—One hundred and sixty-two deaths were registered during the two weeks ending February 17th, including 46 from yellow fever, 20 from small-pox, and 34 from enteric fever.

Havana.—The United States Sanitary Inspector reports for the month of February 416 deaths from all causes, including 6 from yellow fever, 7 from enteric fever, 5 from pernicious fever, 2 from diphtheria, 3 from croup, 2 from measles, and 1 from hydrophobia. One death from yellow fever was reported for the week ending March 3d.

Esseg, Austro-Hungary.—There were 18 cases of cholera and 6 deaths from that disease in the almshouse hospital from January 27 to February 7, 1887, but no cases in the city proper.

La Paz, Bolivia.—The United States minister at La Paz, in his dispatch dated February 6th, states that "the cholera is the all-absorbing question of the day. The Government has organized very stringent preventive regulations, and is anxious that other nations should not disapprove of them. While they weigh very heavily on commerce, the people generally are inclined to approve of them. When the disease assumed an alarming shape in the Argentine confederation non-intercourse was proclaimed by the Bolivian Government, and maintained by a cordon of the military. . . . The port of Arica, near Tacna, though closed to northern vessels, being open to the south, is liable to be infected at any moment. Hence, a military force guards the mail route to La Paz, and prohibits all ingress from that direction. . . . The moment a case occurs, either in Arica or Tacna, liable any day, the steamer on the lake will be stopped, and intercourse with Mollendo and Arequipa suspended, thus cutting off communication with Mollendo, if open, and with both mail and cable routes to the rest of the world. Bolivia will then be completely isolated. Can the cholera be kept out? This is an important question, because places of refuge in Bolivia are wanting, and most of the cities are so filthy or fall easy victims to the plague. . . . In two months more the cold weather may prevent its spreading to the northward, and thus save Arica, Tacna, and Bolivia. But if it should escape to Mollendo and northward, there is nothing to prevent its spreading all along the warm countries of the western coast, and remaining there indefinitely."

Santiago, Chili.—The United States minister, in his dispatch, dated January 15th, states that "cholera is slowly extending along the valley of the Aconcagua, following the course of the river toward the sea, near Valparaiso. About 600 cases have so far been reported, of which about 250 have proved fatal. The victims are almost exclusively confined to the poorer classes of people. Every precaution possible has been taken by the authorities to check the spread of the disease, and stringent sanitary measures adopted, especially in the cities of Santiago and Valparaiso, which for the last month show a death rate less than has ever been known at this season. The following dispatch from Iquique, dated January 5th, appeared in the press of this city: 'The Peruvian Government has decreed to take active measures against the cholera, and has ordered the closing of all the ports against vessels coming from infected countries.' This very extraordinary and premature action of Peru, in closing all her ports against vessels from the ports of Chili, with its vast line of sea-coast of over 2,500 miles in extent, and stretching along the Pacific from Arica, on the borders of Peru, to Cape Horn, because cholera appeared in a section of Chili, midway between the points mentioned, may be likened to a European nation closing its ports to vessels from the United States because cholera had appeared in Connecticut. It is unnecessary for me to point out how very seriously this action of Peru affects our interest. All the steamship lines have been withdrawn from the route between here and Panama, so that the Pacific from Panama to Cape Horn is practically closed to our commerce and communication by steam. All the traffic and commerce from this coast have now to go to Europe, and this dispatch will leave Valparaiso on the 18th instant for Lisbon, thence by rail to Paris and Calais, thence by Liverpool to New York, and will probably take fifty days alone in transit."

Callao.—The United States consul, in his dispatch dated February 19th, states that no cases of cholera have appeared in Peru. The latest official intelligence is contained in the following cable messages from Santiago, dated February 15th, and from Valparaiso, under the same date: "*Santiago.*—From Saturday to Monday noon, 435 cases and 213 deaths. It is difficult to obtain exact data." "*Valparaiso.*—I have visited the lazaretto, established on the Baron hill. Seven cholera patients. Freight from Santiago enters free. Passengers quarantined for twenty-four hours." The minister reports that the health of Lima and Callao is exceptionally good. Strict sanitary precautions and hygienic regulations are still observed.

Paris.—One thousand two hundred and eleven deaths were registered during the week ending February 26th, including 4 from small-pox, 17 from whooping-cough, 42 from enteric fever, 6 from scarlet fever, 55 from diphtheria, 219 from consumption, 86 from pneumonia, and 117 from diseases of the cerebro-spinal apparatus.

Reims.—Fifty-six deaths were registered during the week ending February 26th, including 1 from small-pox, 2 from whooping-cough, 2 from enteric fever, and 2 from diphtheria.

Genoa.—One hundred and thirty deaths were registered during the week ending February 26th, including 3 from small-pox and 2 from enteric fever.

Leghorn.—Eighty-two deaths were registered during the week ending February 27th, including 1 from enteric fever. There were 3 cases of small-pox, but no deaths reported from that disease.

Rome.—One hundred and sixty-three deaths were registered during the week ending January 15th, including 2 from small-pox, 3 from enteric fever, 1 from scarlet fever, and 6 from diphtheria.

Guaymas.—Thirty-four deaths were registered during the month of February, including 8 from small-pox.

Bristol.—One hundred deaths were registered during the week ending February 26th, including 5 from scarlet fever. One case of small-pox was reported.

Warsaw.—Two hundred and twenty deaths were registered during the week ending February 19th, including 6 from small-pox.

Glasgow.—Two hundred and fifty deaths were registered during the week ending February 26th, including 3 from scarlet fever and 2 from diphtheria.

Edinburgh.—One hundred and four deaths were registered during the week ending February 26th, including 1 from typhus fever and 11 from scarlet fever.

Leith.—Twenty-seven deaths were registered during the week ending February 26th, including 2 from enteric fever.

Palermo.—One hundred and fifteen deaths were registered during the week ending February 26th, including 7 from diphtheria.

Leipsic.—Seventy-one deaths were registered during the week ending February 26th, including 5 from diphtheria.

Toronto.—Forty deaths were registered during the week ending March 5th, including 2 from enteric fever and 7 from diphtheria.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Calcutta	January 22.	433,219	237	18	....	....	....	....	....	....
Guayaquil	February 10.	35,000	70	..	22	5	....	15	....	....
Guayaquil	February 17.	35,000	92	..	24	15	....	19	....	....
Paris	February 26.	2,260,045	1,211	..	....	4	....	42	6	55
Reims	February 26.	98,083	56	..	....	1	....	2	....	2
Genoa	February 26.	179,403	130	..	....	3	....	2	....	....
Leghorn	February 27.	101,172	82	..	....	....	....	1	....	....
Rome	January 15.	364,511	163	..	....	2	....	3	1	6
Bristol	February 26.	223,695	100	..	....	....	....	....	5	....
Warsaw	February 19.	431,572	220	..	....	6	....	....	....	....
Glasgow	February 26.	515,678	250	..	....	....	....	....	3	2
Edinburgh	February 26.	258,629	104	..	....	....	1	....	11	....
Leith	February 26.	72,297	27	..	....	....	....	2	....	....
Palermo	February 26.	250,000	115	..	....	....	....	....	....	7
Leipsic	February 25.	170,000	71	..	....	....	....	....	....	5
Toronto	March 5.	120,000	40	..	....	....	....	2	....	7
Rotterdam	February 19.	190,521	93	..	....	....	....	....	1	....
Kingston, Canada.	March 11.	15,109	15	..	..		....	....	....	....
Havre	February 26.	112,074	65	..	....	....	....	....	....	....
Rotterdam	February 12.	190,521	88	..	....	....	....	....	....	....
Cadiz	February 26.	65,028	54	..		....	....	....	....	....
Gibraltar	February 20.	23,631	11	..	....	....	....	....	....	....
Matamoras	March 5.	12,000	5	.	....	....	....	....	....	....

Original Communications.

ANTISEPTICS
IN PRIVATE PRACTICE AND EMERGENCIES.*

By ARPAD G. GERSTER, M. D.

I. Operations in Private Practice.

Knowing that the number of earnest advocates and successful practitioners of surgical cleanliness or asepticism is steadily growing, and fully aware of the great difficulties met with by the general practitioner in securing cleanliness about the wounds intrusted to his care, I beg to contribute the result of twelve years' surgical work, as far as it relates to antiseptics in private practice and in emergencies. The practical conclusions arrived at have been bought at the cost of much hard work among poor and rich, under most varying conditions of poverty or affluence, and have been abundantly proved to be worthy of commendation.

The brevity of the time allotted on this occasion does not permit me to enter fully into the detail of the preparation of dressings, and all the appurtenances of antiseptic practice. It may suffice to say that the practitioner can procure, manufacture, and prepare most of the essential paraphernalia at his own home. By timely preparation he will be enabled to meet successfully any emergency, and the little trouble and preliminary expense will be well rewarded by a sense of security and competence on one hand, and by good results on the other.

Among the many articles needed by the surgeon, I shall select *the dressings* as one of the most important subjects.

Gauze—that is, *cheese or tobacco cloth*, as it is called by the trade—can be procured at any dry-goods store for a trifling sum of money. Twenty-five yards of this fabric are divided into four equal parts. Each of these is folded eight times, and the piece is rolled up loosely and tied with a string. These four pieces of gauze are next made absorbent by freeing them of their oily contents adhering to the cotton from the gin or mill. They are put into a common wash-boiler, covered with water to which a pound of washing soda or saleratus was added, and boiled for an hour. After this they are rinsed in cold water for ten minutes to free them of the soda, are passed through a clothes-wringer and placed in a stone or glass jar or an enameled kettle, filled with a corrosive-sublimate lotion of 1 to 1,000 strength, to remain therein for twenty-four hours. From this they are passed through the wringer again, and hung up to dry over night when the air is freest from dust. The string put about each piece should not be removed until the time of drying, as it will keep the folds from getting disarranged. The dried pieces are ready for use, and will keep clean wrapped in a towel or put away in a jar.

Whenever dressings are used, suitably sized compresses, each having eight folds of cloth, can be cut out of the piece with a stout pair of sharp scissors.

Iodoformized gauze is made by sprinkling iodoform dust from a pepper-shaker uniformly over the moist compress, and rubbing it thoroughly into the meshes between the fingers. I generally make my iodoform gauze on the spot where it is required.

An excellent substitute for gauze in an emergency is common cotton batting well soaked in a solution of corrosive sublimate (1 to 1,000). The package of batting is unrolled in an orderly manner, and cut into square pieces of desired size. Each of these is refolded into a small square and thoroughly kneaded in a wash-basin filled with the mercuric lotion till complete saturation is evident. Well wrung out, each piece is unfolded again to its original shape and is ready for use.

Any clean textile fabric of cotton or linen, soaked in mercuric lotion, will be a good antiseptic dressing. In the winter of 1883 and 1884 I used, during my service of six months at Mount Sinai Hospital, in all major operations, sawdust with the best results. It was impregnated with corrosive sublimate and fixed in suitably sized bags made of cheese cloth.

The fact of the matter is, that the question of dressings is entirely subordinate to the question of a cleanly management of the wound itself before the application of the dressings. A properly handled wound will do well under any antiseptic dressing; a contaminated wound will not be saved from suppuration by the most careful and elaborate antiseptic dressings.

Before passing to the main subject of this paper, let me touch upon another vital matter—the ligaturing material and the sponges.

Raw catgut, as imported from Switzerland for manufacturing purposes, can be bought for a trifling sum from L. H. Keller & Co., 64 Nassau Street. Size No. 0 will answer for fine sutures and ligaturing the smallest vessels; No. 1 is most suitable for the majority of sutures and ligatures; No. 2 will be a reliable, retentive suture, and will safely tie the stoutest pedicle.

Disinfection of catgut is done by its immersion for twenty-four hours in the oil of juniper-berry. When taken from this, the catgut is placed in absolute alcohol until required for use. The addition of corrosive sublimate or carbolic acid to the alcohol is unnecessary, and will injure the tenacity of the catgut.

The expensive imported Greek sponges, sold by druggists under the name of surgeons' sponges, are unnecessary, as there is an abundant supply of a cheap domestic article known as Florida sponges which answers every purpose.

A pound of Florida sponges, fine mesh, medium size, can be bought in New York for about two dollars (contains about one hundred sponges). The raw sponge is well beaten to free it from calcareous contents, the remnants of which are dissolved by immersion for ten minutes in dilute muriatic acid.

The traces of the acid being washed out, the sponges are kneaded in hot water and soft soap (potash or green soap) for ten minutes.

After this they are squeezed well and placed in a vessel with five-per-cent. solution of carbolic acid until needed for use. An immersion for fifteen minutes in carbolic acid will render the sponges thoroughly aseptic.

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* Read by title before the Medical Society of the State of New York at its eighty-first annual meeting.

To give a practical illustration of the rules governing the surgeon in the performance of an aseptic operation in private practice, I shall describe an amputation of the female breast.

The bag, herewith presented to the society, contains everything required for the conduct of a major operation in private practice. It holds everything needed, with the exception of instruments, the selection of which must be governed by the requirements of this or that operation. The instruments, being selected, are wrapped in a clean towel and put into the bag, which may then be said to be complete.

An ordinary hand-bag made of stiff leather holds a number of bottles in loops, which can be easily arranged by any saddler or shoemaker. Two of the bottles are glass-stoppered and have wooden cases to insure against breakage and corrosion. One of them contains two ounces of a ten-per-cent solution of corrosive sublimate in alcohol, one teaspoonful of which added to a quart of water will make a lotion of the strength of 1 to 1,500. The other bottle contains four ounces of carbolic acid, four teaspoonfuls of which, shaken well with a quart of water, will give a three-per-cent. solution. A third bottle, in a metal case, contains two ounces of chloroform. A fourth, wide-mouthed bottle in a metal case, holds catgut and silk wound up on glass bobbins or on wooden sticks. Two cylindrical Wiesbaden fruit-jars contain: one, an assortment of rubber drainage-tubes of different sizes, all cut a little shorter than the inside height of the bottle, in which they stand in an upright position, and from which they can be taken easily with the fingers; the other, twenty-five or thirty disinfected sponges moistened with a little carbolic lotion. Both of these jars are closed with a rubber stopper held down by a metal cap. Behind the bottles are placed a tin teaspoon for measuring the carbolic acid and sublimate solution; a razor; a dressing-forceps for the use of the anæsthetizer in case the patient's tongue needs withdrawing; and a stout pair of tailor's scissors for cutting bandages. In a side pocket of the bag are found a stiff nail-brush, a shaving-brush, a dozen small and large safety-pins, and a hard rubber dusting-box containing iodoform powder. The box was made for me by Tiemann, of New York, and deserves some mention on account of its practical utility.

If I were asked which antiseptic substance I should least like to miss from the vast array in use by modern surgeons, my response would be *iodoform.* Its portability and the great duration of its antiseptic power make it *the antiseptic* agent for war and the emergencies of our era of machine and railroad accidents.

To avoid corrosion, the entire box is made of hard rubber. A tight-fitting cap screwed over the perforated top insures against spilling, and a removable bottom permits of easy filling of the box without disturbing the delicate top.

The body of the bag holds a towel or linen roll with instruments, a nest of six common tin soup-basins six inches in diameter, and has ample space for the reception of a soft rubber fountain-syringe or irrigator, and an ether inhaler, each inclosed in a separate small rubber bag. The irrigator, and especially the ether-cone, frequently get soiled at the time of the operation, and would contaminate the leather bag unless inclosed in a special receptacle of their own; and there is a pouch on the outside of the leather bag for the reception of an ample supply of gauze dressings, roller bandages, and rubber tissue. A nest of from two to six common tin bake-pans is strapped on to the bottom of the bag on the outside. Two pieces of thin rubber sheeting three by four feet in size are neatly folded up and placed in the tin pans before they are strapped on. The soup-basins are required for holding ligatures, threaded needles, drainage-tubes, perforated shot, safety-pins, and other small articles that must be kept apart from the bulk of the instruments. One or two of the large bake-pans will contain the instruments; one, towels soaked in mercuric lotion; one will serve for cleansing; another for holding the sponges; another one for the rinsing of bloody instruments in hot water before they are returned to the carbolic lotion.

Before proceeding further, a word or two as to the selection and care of instruments may be opportune.

All complicated instruments that can not be easily taken apart for cleansing should be condemned. Smooth handles and a simple construction are preferable for obvious reasons. Special care should be devoted to the indented jaws and the clasps of artery forceps and the teeth of saws, as they will easily retain traces of blood and other matter. The cleansing of instruments is best done by brushing in hot soap water and subsequent thorough drying. They should be kept in a tight-closing drawer free from dust and moisture. The surgeon should not omit to wash his hands whenever he intends to handle his instruments.

Let us now rehearse all the steps of a breast amputation to be done in the rooms of the patient. A suitable person to act as nurse is selected. Her duty is to administer a laxative the day before the operation, and to carefully scrub with brush and soap the patient's breast, corresponding shoulder, and axillary space the day before and the day of the operation. A well-lighted room is chosen, out of which all superfluous furniture and hangings should be removed. A bare, well-scrubbed floor is preferable to a carpet. One or two narrow kitchen tables, covered with a quilt and provided with a straw-pillow, will make a capital operating-table. A piece of rubber cloth is placed over the quilt and a clean sheet is laid on top. The nurse must provide soap, a couple of wash-basins, a dozen or two clean towels, and plenty of hot and cold water.

The operator and his assistants should arrive at least half an hour before the time of the operation. Everybody's hands must be washed in hot water with soap and brush. After this the necessaries can be unpacked and arranged. The solutions of carbolic acid and corrosive sublimate are mixed in six well-cleansed quart bottles held in readiness by the nurse. The fountain syringe is filled with sublimate solution and is suspended from a chandelier or nail near the operating-table. On two chairs are placed a pan with hot water for rinsing, another with carbolic lotion for holding the cleansed sponges; from this they should be handed by the nurse to the assistants.

Two more tin basins are filled with corrosive-sublimate solution, and should be placed on chairs to the right and left of the operating-table for the occasional rinsing of the hands of the operator and assistants. On an adjacent table the instruments are arranged in a certain order, which should be rigidly adhered to during the operation to prevent confusion and ill temper.

The vessels being wiped clean, the knives, sharp and blunt retractors, straight and curved scissors, anatomical and dressing forceps, probes, and grooved director, should be put into one pan; all the artery forceps by themselves into another one. Between the two pans is placed a third filled with hot water, in which all instruments not in actual use should be rinsed free from blood before being returned to the carbolic lotion. This will keep things clean and bright and no time will be lost in hunting for them at the bottom of a turbid pool of soiled carbolic solution.

In a smaller tin basin are ligatures; in a second one needles are arranged, threaded with fine and coarse catgut; a third small basin should hold drainage-tubes and safety-pins; a fourth plate, sutures, perforated shot, and silver wire.

The dressings are next arranged. Four or six smaller (6 x 8 inch) and just as many larger (12 x 24 inch) compresses of gauze are cut, care being taken not to make the dressings too scanty, as an ample first dressing may save the trouble of many subsequent ones. A good rule is to let the outermost compresses overlap the wound on all sides by at least eight inches.

To this should be added a sufficient number of strips of iodoformized gauze, three or four rather wide muslin roller bandages, and a large square piece of cotton batting.

All this should be wrapped in a clean towel and laid aside in a secure place till needed.

Anæsthetization may now be begun in an adjacent room. The anæsthetized patient being placed on the table, the parts are exposed and freely soaped and shaved. A piece of rubber cloth is so placed over the patient's body as to leave exposed only the field of operation. The parts are well rubbed off with a towel dipped in corrosive-sublimate solution, and a number of clean towels wrung out of the same solution are suitably disposed around the field of operation, protecting the operator and assistants against contact with the clothing or unwashed parts of the body of the patient, and providing for a clean place where instruments or sponges may be laid down for a moment if necessary.

The end of a wet towel is tucked under the breast and armpit, and is hung over the edge of the table in such a manner as to conduct the blood and irrigating fluid into a bucket placed underneath on the floor.

The anæsthetizer must take good care that, in case of vomiting, no ejecta are thrown on the wound or its vicinity. Towels soiled by vomit should at once be replaced by clean ones.

Now the parts should be distributed. The trustiest man serves as first assistant over against the operator; a younger physician is at his left to irrigate and help as need may require; another physician takes charge of the instruments, and the nurse attends to the sponges. Everybody's hands are finally washed with soap and brush and rubbed with mercuric solution, and the operation begins.

Whenever any one concerned in the operation touches an undisinfected object, hands a chair, opens a door or window, blows his nose, or scratches his face, his hands must be rewashed and redisinfected.

Hæmorrhage should be carefully attended to by ligaturing every bleeding vessel with catgut. After the removal of the diseased parts the wound is carefully irrigated, each recess being attended to in succession.

Drainage and sutures being applied, the projecting end of the drainage-tube is cut off flush, and is transfixed with a safety-pin to prevent its slipping into the wound. A final irrigation through the tube will clear away any clots, and gentle compression with a couple of sponges will remove the remnant of irrigating fluid from the wound. Iodoform-gauze strips are next placed along the suture and around the drainage-tube, passing under the safety-pin, and a few pads of gauze are held pressed against the wound, while the patient is slightly raised to cleanse her back and the table from blood. The soiled towels are replaced by dry ones, and the dressing is completed by applying as many gauze compresses as required. These are fastened snugly with gauze bandages, the other breast and armpit being first padded with cotton. The large, square piece of cotton is next applied and snugly held down by a roller bandage; the arm is placed in a sling and the patient brought to bed.

(*To be concluded.*)

ON THE TREATMENT OF OLD DISLOCATIONS OF THE ELBOW.*

By LEWIS A. STIMSON, M. D.,
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The great extension given in the last few years to the application of operative methods to the treatment of surgical diseases and injuries has compelled a reopening of many questions which had been previously looked upon as settled, and has made it necessary again to collect and study the recorded experience for our guidance in the future.

Among these questions, that relating to the propriety of interference in old, unreduced dislocations is an important one, and one upon which experience is rapidly accumulating, and among these dislocations, those of the elbow have an important place. The loss of mobility resulting from the injury, especially in the common dislocation of both bones backward, is usually so great that the disability is serious, the patient is unable to bring the hand to the head or chest, and is able to use it only in the arc of a circle whose radius is nearly equal to the length of the extended limb, and he may, in addition, possess only such rotation as can be effected by movements at the shoulder. Moreover, the injury is most common in the young, and the disability, therefore, is life-long. I desire to present to the society a brief review of a personal case, in which features of interest and importance appear, and a survey of the recent experience of others.

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* Read before the New York Surgical Society, March 9, 1887

My case is as follows:

Maggie F., a rather delicate-looking girl, eleven years old, was admitted to Bellevue Hospital in April, 1886, with a backward dislocation of both bones of the right forearm, which had been produced five months previously by a fall from a sofa. The elbow was flexed at an angle of 150°, and was immovable, with the exception of some rotation. The soft parts covering the joint were normal in appearance and to the touch, and it was possible to recognize by palpation the relations of the bones, and that the internal epicondyle was lacking, while the external condyle was greatly thickened posteriorly, overlapping the concave surface of the head of the radius. The length of time that had elapsed since the injury was received, the extensive new formation of bone, and the degree of the disability, led me to attempt to relieve the condition by an arthrotomy. Dr. McBurney and Dr. Halsted were present and assisted at the operation. An incision was begun on the outer aspect of the arm about two inches above the epicondyle, was carried down to and a little beyond the latter, and was continued for a short distance along the forearm, parallel to and a little in front of the radius, and through this the mass of bone of new formation on the back of the external condyle was freely exposed and chiseled away. This mass grew backward and downward from the upper portion of the posterior aspect of the external condyle and the shaft above it, completely overlapping posteriorly the head of the radius in the form of a buttress, against which the latter rested, and was continuous on its outer and inferior margins with the condensed soft parts which formed the new capsule. The anterior part of the capsule, which was drawn snugly around the lower end of the humerus, was easily separated from it, and the articular cartilage of the latter appeared smooth and unaltered, but the dissection behind the humerus was made very difficult by the interposition of a mass of fibrous tissue between it and the greater sigmoid cavity, which entirely filled, and was closely adherent to, the latter. Dr. McBurney advised the making of a second incision upon the inner side of the elbow to facilitate this dissection, but, unfortunately, I preferred to meet the difficulty by dividing the olecranon, being encouraged so to do by the reports of some cases to be subsequently mentioned, and by personal experience of the method in operations for tuberculous disease of the joint. So the incision was extended across the olecranon, and this process was divided obliquely at its thinnest part. The back of the condyles was then easily freed, and the epitrochlea was found to have been broken off and to have become reunited with the humerus at some distance above its normal position. The attached internal lateral ligament was then separated from it, and the bones were then readily brought into place. The coronoid process of the ulna had not been broken.

The olecranon was sutured with silk-worm gut. A drainage-tube was placed behind the condyles through the external incision, the wound was closed, and the limb was placed in a splint with the elbow at an angle of about 145°. It was possible to flex it to a right angle, but in that position the strain exerted by the triceps upon the olecranon was so great as to endanger its reunion. As the history will show, in thus seeking to avoid failure of union, the occurrence of another and more serious accident, which I did not anticipate, was favored—recurrence of the dislocation. Two days later the dressings were changed and the limb was enveloped in plaster-of-Paris bandages. A week later a fenestra was cut and the tube was removed; there was little or no suppuration. During the following month I was absent from the city; on my return, the dressing was removed and the wound was found to be solidly healed, but the dislocation had recurred. A second operation was done three weeks later, two months after the first. A curved incision was made, its convexity upward, beginning just below the outer side of the head of the radius and crossing above the olecranon; the ulnar nerve was exposed and drawn aside, and the joint was opened by cutting through the triceps. The joint-surfaces were found to be almost denuded of cartilage and much changed in shape by bony and fibrous outgrowths at their borders; so I excised the lower end of the humerus and the head of the radius; the bone was much softer than usual. I enlarged the sigmoid cavity by scraping, and cut a notch in the lower end of the humerus to receive the olecranon; catgut drains were introduced. Close fibrous union of the former division of the olecranon was found. The wound healed without incident in thirteen days; passive motion was made for several weeks, and the patient left the hospital with flexion to within a right angle and almost complete extension, but, on looking her up in February, 1887, about seven months later, I found the joint completely ankylosed at a right angle. The only good result of the operation was an improvement in the attitude, and against that must be offset the loss of the slight amount of rotation that existed before the operation. There is still the possibility of restoring motion by another excision, but I advised the parents not to have that done at present.

The direct examination of the joint at the two operations disclosed several interesting features, of which some are new and others have been before described, which bear directly upon the question of the best method of treatment. The extensive overgrowth of bone upon the back of the external condyle has not, I think, been observed, or at least reported, in any other case in which the dislocation had existed for only five months, and it is to be attributed, probably, to the stripping up of the periosteum. It may be remembered that a specimen of incomplete outward dislocation, in a child eight years old, removed by excision and presented to the society, October 25, 1886, by Dr. Lange, showed a similar growth nearly half an inch broad, on the outer aspect of the external condyle—one probably produced in the same manner. Taken in connection with the avulsion of the epitrochlea, which is common in lateral dislocations outward, but rare in backward ones, and the apparent integrity of at least the outer part of the anterior ligament, it suggests that the dislocation was produced not by the usual hyperextension of the elbow, but rather by a lateral outward flexion of the forearm, which tore off the epitrochlea, and was then followed by a twist, which carried the coronoid process backward past the trochlea, and then by a direct impulsion of the bones backward and upward. Displaced in this manner, it is easy to understand that the head of the radius should have stripped the external lateral ligament from its attachment to the condyle, and should have passed upward between the periosteum and the bone, leaving the former continuous more or less completely with the ligament, and itself remaining within the cavity thus formed. That the periosteum thus stripped up should so promptly have produced the mass of bone found above and behind the head of the radius, is entirely in harmony with our experience. To this extent the case is exceptional; but other features are of more general occurrence, and may reasonably be looked for under like circumstances. The attitude of almost complete extension of the forearm is common, and the consequent overriding of the bones along the back of the humerus leads to the formation of new cicatricial bands between the olecranon and the humerus, and to the establishment of new attachments of the torn lateral ligaments so far above and behind the center of motion that almost no flexion is possible without their rupture or elongation, and the return of the bones to their place can be effected only after a far more extensive rupture of these soft parts than that which accompanied the dislocation. In attempting to rupture these bands by forced flexion, the forearm is used as a lever the fulcrum of which is situated in the ulna below the coronoid process, and the rupturing strain is exerted through the olecranon upon the ligaments and adhesions connected with it, and it is not to be wondered at that this process should so frequently have been broken in the manipulation. In the case which I have described, the middle and posterior portions of the internal lateral ligament apparently had not been ruptured, but had been torn away at their upper attachment, remaining continuous with the fragment of the epitrochlea, and, after this fragment had reunited with the humerus at a higher point, the ligament was as strong as it had ever been.

The filling of the greater sigmoid cavity by a mass of fibrous tissue, partly of new formation and partly furnished by the posterior portion of the capsule which slips in between it and the bone, appears to be of frequent occurrence; it has been encountered in several operations, and the union between this mass and the cartilage of incrustation was so firm in my case, as also in others, as to require the application of the edge of the knife for its removal. When present, it must be a serious, perhaps an insurmountable, obstacle to the restoration of the bones to their place by any method which does not directly provide for its removal. The adhesion of the anterior portion of the capsule to the cartilage covering the capitellum was but slight, and the cartilage itself was almost unaltered in appearance after the separation. The reason of this notable difference in the solidity of the adhesions contracted by the cartilage covering the greater sigmoid cavity and that covering the capitellum is not clear.

Another change peculiar to the young, which was present in only a slight degree if at all, in my case, is one which may so far alter the shape of the end of the humerus, and particularly of the capitellum, as to make it impossible to replace the the radius and ulna, even after the removal of all obstacles arising from change in the soft parts. This change, which has rarely been noted at the elbow, is of common occurrence at the knee in the subluxations following prolonged flexions of that joint. It consists in an exaggerated growth of the epiphysis consequent upon the withdrawal of the pressure normally exerted upon it by the opposing articular surfaces, and, as the conjugal cartilage of the capitellum runs obliquely from in front and above downward and backward, this growth takes place in a direction at right angles to that of this cartilage—that is, downward and forward—and the capitellum consequently forms an abnormally large hemispherical prominence on the anterior and lower part of the bone. The epiphysis of the trochlea is smaller than that of the capitellum, forming only a comparatively thin scale upon the surface, and there are no observations to show any inequality in its growth due to this cause. In the reported cases in which the capitellum was deformed, the ulna had remained more or less completely in contact with the trochlea, and consequently the factor of withdrawal of normal pressure did not exist for it. In Dr. Lange's specimen, above mentioned, the capitellum showed this enlargement very plainly, but the inner side of the trochlea was flattened.

Another change, which has been observed only in cases of displacement of very long standing, is elongation of the neck of the radius, and this also, I think, must be attributed to the same cause. Reported specimens, in which one or both changes have been observed, are those of Humphrey, Allen, and R. W. Smith, but in none of them is it certain that the primary displacement was a traumatic dislocation. In Humphrey's case the lower part of the left ulna was lacking, evidently the result of defective development; the right ulna was firmly ankylosed to the humerus nearly at a right angle, and was eight inches long; its lower end was well formed, and was on the usual level with the radius. The latter was also eight inches long, and its head was displaced upward and rested against "the fore part of the ridge that ascends from the outer condyle to the shaft"; it was somewhat irregular in shape, and its extra length was developed in its shaft, and not in its neck as in other cases. The displacement upward was clearly the result of the elongation of the radius, whatever the cause of the original displacement from contact with the capitellum may have been, whether traumatic, pathological, or congenital.*

Allen's specimen was taken from the body of an elderly man, without a history. Both elbows were affected, flexion was normal, extension possible only to a right angle, rotation was entirely lost, the limbs being fixed in pronation. The radius crossed the front of the ulna and was united with it by bony union for a distance of about three inches at their upper part; below this part the shaft of the radius was much thickened. The neck of the radius was an inch and a half long, so that the head was carried well up behind the humerus on the inner side of the olecranon, and this overriding was further increased by the abnormal growth of the external condyle downward and outward, the extent downward of the growth being estimated at half an inch. The trochlear surface was deformed, mainly by the loss of its inner lip. The olecranon fossa was so far filled up that the septum between it and the coronoid fossa was one third of an inch thick.† In R. W. Smith's specimen, which was taken from a woman about forty years old, the radius was displaced forward, and the external condyle was much larger than usual and was bent forward, its anterior upper surface forming, with the lesser sigmoid cavity of the ulna, a deep hollow, in which the head of the radius lay.‡

Finally, partial fractures of the head of the radius and of the coronoid process have been observed in dislocations backward, and the presence of the fragment of the radius or the formation of bony union between the stump of the coronoid process and the humerus may interfere with reduction. In several cases the fracture of the head of the radius has caused so much disability that resort has been had to arthrotomy,* and in two cases of backward dislocation of both bones Annandale † found the coronoid process united to the back of the humerus "by a considerable amount of osseous material."

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* Humphrey, "Medico-chirurg. Trans.," vol. xlv, p. 296.

† Allen, "Glasgow Med. Jour.," 1880, vol. xiv, p. 44.

‡ Smith, "Dublin Quart. Jour. of Med. Sci.," 1850, vol. x, p. 213.

To recapitulate: In all cases of backward dislocation of both bones of the forearm, of more than a month's or six weeks' standing, it may be reasonably assumed that strong adhesions have formed between the olecranon and the stump of the external lateral ligament and the back and sides of the humerus, which must be ruptured or divided before the bones can be returned to their place, and that the greater sigmoid cavity is occupied by a closely adherent mass of fibrous tissue; and when the patient is under fifteen years of age it is probable that the lower end of the humerus has been altered in shape by the formation of new bone under the injured periosteum on its back or sides, and by the exaggerated growth of the capitellum. When the dislocation has lasted three months or more in a young patient, this deformity of the capitellum may be quite marked, and may be made still more important by an elongation of the neck of the radius. It is possible also, though not probable, that there may be present a partial fracture of the head of the radius or of the coronoid process, which will seriously interfere with the restoration of the functions of the joint even after the reduction of the dislocation.

Turning now to the bearing of these changes upon the question of treatment, it appears that they are clearly incompatible with successful reduction by the means employed in fresh cases, even if the force employed be sufficient to rupture the adhesions and to bring the bones down to the proper level. It is true that successes have been occasionally reported, but the reports rarely go beyond the statement that reduction was accomplished, and they leave the subsequent history of the case and the degree of re-establishment of the functions unrecorded. Until quite recently the only methods employed have been forcible attempts to reduce by traction and the breaking of adhesions, sometimes aided by subcutaneous division of the tendon of the triceps, or of the adhesions on the side and back of the joint, increase of the range of motion by the same means without reduction, reduction after fracture of the olecranon by forcible flexion, and excision of the joint.

Albert says that Liston, more than forty years ago, successfully reduced an old dislocation after having subcutaneously divided all tense bands, and that, in 1847, Blumhardt successfully practiced arthrotomy in a similar case, making two lateral incisions, and dividing through them all the adhesions that opposed reduction. This case appears to have been entirely lost sight of, and it was not until thirty years later (in 1877) that Küster,‡ in reporting a case of fracture and dislocation of the astragalus treated by excision, suggested that old dislocations of other joints might be successfully treated by arthrotomy. In the following year, Trendelenburg,* in a paper recommending temporary division of the olecranon to facilitate operations upon the elbow joint, reported a case of incomplete outward, or outward and backward, dislocation of both bones, with avulsion of the epitrochlea, which he had treated by making an incision along the tendon of the biceps, and chiseling away enough bone from the lower end of the humerus in front of the coronoid process to allow flexion to a right angle; the result was good to that extent. A little later Volker † reported a case of incomplete outward dislocation of the left elbow, of six months' standing, in a boy thirteen years old, in which, after division of the olecranon, he had divided the adhesions, dissected away the new tissue adherent to the sigmoid fossa, and had then been able to reduce; as the change in the shape of the bones favored recurrence, he also removed the head of the radius. He then sutured the olecranon with two silk-worm gut sutures, passed from side to side of the bone, closed the wound, and obtained a good result. His incision was V-shaped, its sides extending along the borders of the triceps, and the bottom of the V crossing the olecranon at the point where it was to be divided. The position of the limb (ankylosis in almost complete extension) and the evidences of serious pressure upon the ulnar nerve were important factors in the determination to operate. He was so pleased with the result that he looked forward with confidence to the adoption of the method in all old dislocations with much disability.

Trendelenburg ‡ promptly claimed priority in the suggestion of preliminary division of the olecranon, and reported a case of backward dislocation of both bones of eight weeks' standing, successfully treated in this manner. His incision was a curved transverse one, the convexity directed upward, crossing the median line well above the olecranon, and the flap of skin was then dissected and reflected downward to the point at which the olecranon was to be divided; this division was done with a chisel. Because of difficulty in bringing the olecranon down, the limb was dressed in extension, but after the nineteenth day, when the wound was healed, the position was gradually changed, and four weeks after the operation the limb could be flexed to a right angle. The olecranon reunited solidly in this case and in Volker's.

In 1885, Nicoladoni # published a short paper on the application of arthrotomy to old dislocations of various joints, and included in it the report of two cases in which he had practiced it at the elbow. The first case was an almost complete outward dislocation of the left elbow, in a lad sixteen years old, which had existed for eight months; the epitrochlea was broken off and drawn under the trochlea; the limb was in extension, flexion was almost entirely lost, but rotation was preserved. An incision eight centimetres long was made in front, along the the inner border of the troch-

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* Wagner, "Beilage zum Centralblatt für Chirurgie," 1886, No. 24, p. 93.

† Annandale, "Edinburgh Med. Jour.," February, 1885, p. 681.

‡ "Berliner klin. Wochenschrift," 1877, p. 16.

* "Archiv für klin. Chir.," 1879, vol. xxiv, p. 790.

† "Deutsche Zeitschrift für Chir.," 1880, vol. 12, p. 541.

‡ "Centralblatt für Chir.," 1880, p. 833.

"Wiener med. Wochenschrift," 1885, p. 728.

lea, and through this the fractured epitrochlea was removed; a second incision of the same length was made on the outer side of the joint, through which, after removal of a small piece of bone which had been broken from the condyle, the soft parts were separated from the radius and the humerus; then, through a longitudinal cut made in the triceps, the adhesions between the olecranon and the back of the humerus were separated, and the bones were then easily restored to place. The wounds healed after slight suppuration; passive motion was begun after the third week, and the patient was dismissed after seven and a half weeks, with the elbow flexed and movable through an arc of 35° or 40°. Nine months later he wrote that he could flex and extend the joint freely, but that rotation was not quite so free. The second patient was a large, powerful man, forty-one years old, with a backward dislocation that had existed for six months. The limb was almost completely extended and immovable; there was some passive rotation. Two lateral incisions, each sixteen centimetres long, were made; through the first, over the outer condyle, in front of the head of the radius, the soft parts were separated from the bone, leaving the periosteum undisturbed, into the trochlea and above the fossa trochlearis in front and behind; the separation from the cartilage was easy in front, but very difficult behind. Through the second incision, on the inner side of the elbow, the flexor muscles were cut away close in front of the epitrochlea, and the separation of the soft parts from the bone was completed. The greater sigmoid cavity was found to be filled with hard cicatricial tissue, which was cut and scraped away, after separation of the posterior attachment of the orbicular ligament. Reduction was then easily made. Two drains were placed on the flexor side of the joint, and one through the tendon of the triceps; the wound was closely sutured, a Lister dressing was applied, and the limb was placed on a splint. Recovery took place without incident, and the patient was dismissed at the end of four weeks, the wounds being almost healed. There was good active rotation, but very little flexion; passively, there was complete extension and flexion to a right angle.

In drawing conclusions from this scanty record of only five cases, we may be somewhat aided by the results of similar operations at other joints, and in other forms of dislocation at the elbow. In several (five or six) cases of isolated dislocation of the head of the radius, arthrotomy has been done with good results, both as regards the reduction of the dislocation and the restoration of function, although the latter has never been complete. I know of only one case (Burkhardt's) in which a dislocation at the shoulder has been reduced by arthrotomy, and in this the functional result left much to be desired. In another (Albert's) fracture of the surgical neck of the humerus took place during the operation, and the patient recovered with a pseudarthrosis, and in a third (Thiersch's) the operation failed. At the ankle, the astragalus has been successfully replaced by arthrotomy by Dr. McBurney, in a recent dislocation; and the operation has been done several times with success at the metacarpal joint of the thumb. In a case of thyreoid dislocation of the hip, Polaillon * lost his patient by acute septicæmia. In a case of dorsal dislocation, of nine months' standing, in a child seven years old, Dr. McBurney successfully reduced by arthrotomy, but the head of the femur subsequently became carious and was removed. The success in Volker's and Trendelenburg's cases, in which the olecranon was divided, was fairly good, and the divided process reunited promptly and well; but in mine the union was only fibrous, and the fixation of the upper fragment was such that the limb had to be dressed in semi-extension, and to this I attribute the recurrence of the displacement. Probably the difficulty might have been avoided by a more free liberation of the upper fragment, from which I refrained, because I did not think it necessary and did not anticipate the consequence which followed. The method gave easy access to the joint and a good view of the adhesions that needed to be divided; but in another case I should give the preference to the method by two lateral incisions, without division of the olecranon.

The only facts in this brief record that may actually contra-indicate resort to arthrotomy are the death of Polaillon's patient, and the change in the articular cartilage observed at the second operation in my case. Of the former it is sufficient to say that the case was of six weeks' standing, and had been subjected to several attempts to reduce under chloroform, the last one three weeks before the operation, and that the region of the hip was still tender and swollen; the patient was delicate and alcoholic. The incision was made in front, from the anterior inferior spine of the ilium downward, and during the operation the dislocation was transformed into a dorsal one. Apparently, the operation was done with scrupulous attention to antiseptic details, and the occurrence of fatal acute septicæmia (with emphysematous gangrene) was probably due to extensive bruising and laceration of the soft parts; the record of the case indicates that the parallel between it and operations upon tissues that have recently been subjected to violent traumatism is close.

The change in the articular cartilage observed in my case could hardly have been caused by the inflammatory reaction following the operation, for that was not sensibly greater or more prolonged than after the original dislocation. I am inclined to attribute it rather to the keeping of the knife too close to the bone in the separation and freeing of the soft parts, and I think, therefore, that in a similar case it would be better to divide the adhesions than to separate them from the humerus. The reported cases are too few to justify much generalization, but the large measure of success which they have furnished is an encouragement to further trial. In the mean time, the rules of conduct in the presence of old backward dislocation of the elbow formulated by Albert appear to be judicious. He says that in elderly patients he limits interference to rupture or subcutaneous division of the adhesions, and that, if reduction then fails, he forcibly flexes the elbow to a right angle, with or without fracture of the olecranon, and allows it to become ankylosed in that position. In younger patients he makes the attempt to reduce, sometimes dividing the tendon of the triceps, so as to avoid fracturing the olecranon; reduction failing, he does an arthrotomy, with two

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* "Bull. de la soc. de chir.," 1883, p. 101.

lateral incisions, and, if this also fails, he proceeds to resection.

To this I should wish to add the caution that an arthrotomy should not be undertaken until after the tissues have entirely recovered from the inflammatory reaction or the fresh lacerations of the original injury, or of attempts to reduce; and that the longer the dislocation has lasted, and the younger the patient (under fifteen years), the less is the probability that arthrotomy will be sufficient, and the greater is the probability that excision will be required. In old incomplete outward dislocations little good is to be hoped for from anything but arthrotomy, for the common interposition of the fractured epitrochlea can not otherwise be overcome, or the cicatricial obstacles on the inner side be removed. The choice will, probably, lie between improving the attitude by forcible flexion of the limb, if extended, and arthrotomy, the internal incision being made in front of the trochlea, rather than upon the side.

MODERATE DILATATION OF A URETHRAL STRICTURE

FOLLOWED BY ABSCESSES OF THE TRUNK AND LIMBS.*

By JOSEPH D. BRYANT, M. D.

The object of this brief narrative and its attendant comments is to bring to your notice a case of, as it seems to me, some little interest, in which some doubt may exist as to the true nature of the cause of the trouble. It is hoped also that if it does not prove instructive in itself, it may at least incite others to make remarks that will be of interest to those present.

About the middle of last December a gentleman called to consult me, who presented to me a note from a physician, who expressed the wish that I should take charge of the bearer on account of a troublesome stricture of the urethra. The patient gave in brief the following history:

Age twenty-four, merchant; good family history. His previous habits of life, while not model in all respects, had been as consistent with the tenets of sobriety and virtue as are the habits of a large number of young men whom the better part of the community are wont to consider respectable. He had received no injury that could have had a possible influence on his present condition. He said he had suffered from repeated attacks of gonorrhœa between the years 1875 and 1885, many of which had been much prolonged. He gave no distinctive history of the occurrence of gleet in the intervals of the attacks; still I suspect it must have occurred, and it is even probable that one or more of his "attacks" of gonorrhœa had been little else than an acute gleet caused by the influences of his indiscretions on a vulnerable, if not previously diseased, urethral mucous membrane. In 1880 his urethritis had been complicated with malaria, and with lobar pneumonia of the left side. In 1883 it had been complicated with a so-called carbuncle of the back of the neck. In 1885 it had been complicated with boils in the same situation.

I have serious doubts of the correctness of the diagnosis of the complications mentioned in the last two statements, because the local manifestations which the patient asserts to have been present in connection with them do not correspond with the accepted signs of these morbid processes. It is my opinion they were ill-conditioned abscesses that had developed from circumscribed phlegmons of the posterior cervical region. Whatever they may have been, it does not appear that they were associated in any manner with instrumental manipulations of the urethra.

In 1883 the common symptoms of urethral stricture made their appearance, and in 1884 the existence of stricture was determined by a physician, who attempted its cure by gradual dilatation. The patient, however, was intractable, and submitted to treatment but a short time. In fact, he has been similarly treated by different physicians since that time, and in each instance, as in the first, he rebelled against the treatment as soon as comparative comfort had been secured. He also gave a history of the occurrence of repeated chills that had been followed by or attended with fever, and which he had recognized as associated often with a previous dilatation of the stricture. He thinks now that the chills attended or followed soon after the first micturition subsequent to the dilatation of the stricture. At no time, however, has the stricture been dilated above No. 12 E., and more often much less than this. He also informed me that he had suffered from languor and an unusual disinclination to activity for two or three months prior to this visit, and on one occasion during this time, without apparent cause, he had been attacked by a severe chill, followed by fever and sweating.

He was found to be extremely excitable, and fearful of the slightest pain. He insisted even that I should administer ether for the purposes of urethral exploration. This I emphatically declined to do, but employed a urethral injection of a four-per-cent. solution of cocaine, and, with little annoyance to him, ascertained the following facts:

1. The existence of a stricture three inches from the external meatus that admitted a No. 5 Eng. bulbous bougie.
2. The existence of a stricture at the bulbo-membranous junction, through which a whalebone guide only could be passed.

Four of these guides were introduced through the stricture finally, and they filled its caliber entirely. The guides were allowed to remain in position for a few moments, and, when they were removed, a small gum-elastic filiform bougie was carried through the stricture with some difficulty. This was quickly followed by Nos. 5 and 8 of the conical gum-elastic variety. No unusual difficulty was encountered in the introduction of the last two. But little pain attended the manipulations, and the patient offered no resistance. I should say, however, that a second injection of the cocaine solution had been employed in the mean time. The amount of hæmorrhage was slight, being only sufficient to discolor the mucus and oil that were finally expelled from the urethral canal. Indeed, there was *very much* less bleeding, the patient informed me, than had attended similar operations before this.

I ventured the prediction that he would have a chill as usual, and advised him accordingly. He dissented from this opinion, and gave as a reason for the difference that he had never felt so well before after the dilatation of his stricture. His prediction was the correct one; a chill did not take place. He was advised to call again in four or five days for further treatment. Instead of waiting as requested, he called in three days, that he might leave town at once, to be gone two weeks. The cocaine solution was used as before, and Nos. 5 and 8 of the same pattern of bougies were passed without pain or difficulty. No. 10 was then introduced, but it encountered no greater resistance than No. 8 had at the previous sitting. The amount of hæmorrhage was not greater at this than at the previous sitting, while the patient was under my observation. He has informed me since that he passed some blood with the first act of micturition, but that the amount was slight when compared with what he had passed after the former attempts of others to dilate the stricture. He called again in forty-eight hours to say to me that he had experienced chilly sensations, attended with great prostration and fever, since the last treatment. The prostration came suddenly, he said, while he was seated in a water-closet, and followed at once the first passage of urine after the introduction of the bougies. He was certain that the pain attending the act was not the cause of the prostration, for the latter continued long after the pain had ceased, and, besides this, he had experienced a similar pain often before with the first act of micturition, without the least prostration having followed.

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* Read before the Section in Surgery of the New York Academy of Medicine, February 14, 1887.

His depression must have been considerable at this time, since he was unable to leave the closet or to go to his home unaided.

At the time of this visit he complained of languor, "feeling sore," as if he "had been pounded," to use his own words. The temperature was 101° F.; pulse, 85. Simple medication was advised, and also that he go home (a day's journey) and remain quiet. He returned in ten days, and I found he had spent a most uncomfortable vacation. He had suffered from irregular chilly sensations and fever since leaving. Pulse was 90, temperature 102° F., and appearance haggard. He had at this time two painful and tender phlegmonous swellings of the left thigh, one on the anterior, the other on the posterior surface; also one of large size above the crest of each ilium; a small one beneath the right nipple, and also a similar one at the inner side of the right arm near the axilla. Those of the thigh and above the iliac crests were noticed first between five and six days after the occurrence of the chill, the one below the nipple and at the inner side of the arm somewhat later; the latter did not attract the special attention of the patient, on account of their smaller size. Those of the thigh and the one above the crest of the right ilium suppurated profusely and discharged an abundance of inoffensive pus tinged with blood.

The remaining ones did not suppurate, and each of them, disappeared soon, except the one above the left iliac crest which remained for weeks, often threatening suppuration, but finally this disappeared also. The constitutional symptoms attending the suppurative process were not severe; the temperature ranged from 99° to 101° F. in the A. M. to 101° to 102° F. in the P. M., with occasional chilly sensations, without sweating, until near the close of the suppurative process. At this time the patient was attacked with a mild lobar pneumonia, attended with a small amount of pleuritic effusion. From these last he made a satisfactory though protracted recovery. The kidneys at no time offered any evidences of disease of their structure.

This brief history seems to point to certain interesting, though not unusual, facts bearing on the personal peculiarities of the patient.

1. A highly excitable disposition.

2. A strong tendency to phlegmonous inflammations.

3. The almost invariable occurrence of chills and fever following urethral interference.

4. A second association of lobar pneumonia with a morbid urethral condition.

The most interesting and important feature of this case, however, appears to me to be the occurrence of the phlegmonous swellings, together with their bearing on the therapeutics and prognosis of similar cases. Indeed, this feature of the case suggests the following queries:

1. Are similar abscesses a consequent or an accidental complication of the treatment of urethral stricture?

2. If a consequent complication, what importance is to be attached to the "personal peculiarities" of the patient?

3. If a consequent complication, how are they produced?

4. If a consequent complication, how can they be prevented?

5. If a consequent complication, how do they affect the prognosis for cure and for the life of the patient?

6. If an accidental complication, how are they to be avoided?

In this case they seem to me to have been an accidental or indirect complication for the following reasons:

1. Similar processes appear to have occurred before, independent of urethral manipulation.

2. Much greater damage appears to have been inflicted on previous occasions without associated suppuration.

3. The constitutional symptoms that attended the suppurative processes are not consistent with the symptoms of such processes when dependent on a septic origin.

If they are a consequent or direct complication of a septic nature, the "personal peculiarities" would no doubt hasten and intensify the process, and thereby increase the gravity of the patient's condition. If they are an indirect or non-septic complication, the "personal peculiarities" will then hasten and intensify, but, in my opinion, will not imperil the life of the patient.

If they are a consequent complication of a septic nature, they must depend either on the absorption of some poisonous element existing in the urine that comes in contact with a freshened surface, or on a subsequent thrombosis at the seat of the stricture.

If they are a consequent complication dependent on urinary sepsis, their prevention demands that the course of the urinary stream be changed; as, for instance, by causing the urine to escape through an opening made in the perinæum behind the seat of the stricture. I do not believe urethral medication directed to the prevention of urinary sepsis by absorption to be of practical importance. I have injected into the urethra, both before and after the act of micturition, simple and medicated oils, and many varieties of antiseptic solutions, for the purpose of preventing urethral chills, and thus far my efforts have been rewarded by no definite curative results.

If abscesses are a consequent complication of a septic origin, their occurrence must exert an obviously unfavorable influence on the prognosis for the cure and for the life of the patient.

If abscesses are an accidental non-septic complication, no attempt at internal treatment should be made, provided the conditions of the case will admit of delay until the patient has been thoroughly fortified in a general sense. When either gradual dilatation or cutting can be resorted to, cutting, in my opinion, is the better of the two plans. Internal incision, if the obstruction is in front of the bulbo-membranous junction; external, if it is behind this part.

INFLAMMATION OF THE ANTRUM.*

By BEVERLEY ROBINSON, M. D.

This subject was brought before the association four years ago by Dr. William H. Daly, of Pittsburgh. At that time our colleague reported two interesting cases of this kind, apparently due to extension of inflammation from the nasal passages. Until two years ago I have not had the opportunity to treat any such cases, and it was only last summer that I met with a first case of suppuration of the antrum. Fortunately, I then saw an example of this disease, and was able to carry out, conjointly with Dr. C. A. Brackett, of Newport, R. I., the treatment detailed in the following history:

On July 3, 1885, Miss K. B., single, twenty-five years old, consulted me at the request of my friend, Dr. John F. Ridlon, of New York, in regard to a purulent discharge from the left nostril. This discharge had already persisted during four to five weeks, and despite appropriate general treatment. Little or no local medication had been employed at the date I first saw my patient. On that occasion she was pale, nervous, and suffered considerably from neuralgic pains in the left cheek, orbit, and over the eyebrow. The nasal mucous membrane on the left side was red and swollen, and the occlusion was so great as to render respiration through the corresponding passage impossible. A small quantity of thick, purulent liquid was almost constantly oozing from the left nostril, which could be removed when it appeared by wiping it away, but could not be blown out of the nostril because of the obstruction occasioned by the infiltration of the soft tissues covering the septum and lower and middle turbinated bodies. The left naso-labial furrow was less marked than that on the right side, and the left cheek was somewhat swollen. The color of the skin in this region was unchanged. Moderate pressure over the left antrum occasioned evident pain. There was no apparent bulging of the antrum in any direction. The hard palate was normal, and there was no alveolar abscess. The teeth in the upper jaw on the left side were filled—the first bicuspid with a gold filling, the first and second molars with amalgam fillings. The second bicuspid and the wisdom tooth had been extracted some time previously. Upon examination of the mouth by a competent dentist, a short time before my patient first came to me, the teeth remaining in the upper jaw had been declared to be free from disease, and were not painful to moderate percussion with a steel instrument. There was no swelling or other indication of a forming abscess near any one of them. From July 3d to July 27th I treated Miss B. in the following manner: At first, by means of a salve introduced through the left nasal passage two to three times a day, composed of camphor, cubebs, vaseline, and glycerin, and internally by wine of coca and pepsin. After a week had elapsed, Blaud's iron pills were substituted for the preparation of coca and pepsin, and a powder was insufflated into the left nasal passage several times daily with the anterior nasal powder-blower.

The powder was thus composed:

℞	Pulv. acid. tannici	gr. vj;
	Pulv. camphoræ	gr. xxx;
	Pulv. iodoformi	gr. xxv;
	Pulv. cubebæ	gr. xv;
	Pulv. acaciæ	ad ℥ ss.

M.

On July 27th the left cheek became more swollen at its lower portion, and the gum around the second upper molar tooth on the left side was inflamed and sensitive. The tooth itself was somewhat movable, and slightly painful on moderate pressure. It was determined, in consultation with Dr. C. A. Brackett, to remove the tooth and perforate the left antrum. This operation was accordingly performed by Dr. Brackett on the day just mentioned, while the patient was under the influence of nitrous oxide gas. The antrum was then washed out with a disinfecting solution by means of a small metallic syringe with a long, fine nozzle, and a portion of the detergent liquid passed out through the left nostril, carrying before it a small quantity of purulent discharge. After the antrum had been sufficiently cleansed, a cotton tent was introduced through the opening into the antrum. During and subsequent to the injection Miss B. suffered a great deal of pain, and was obliged to take half a grain of morphine that night to induce sleep. Two days later, as the injection into the antrum and the removal and introduction of a tent appeared unusually painful, cocaine, in four-per-cent. solution, was used hypodermatically in the gum and antrum to the amount of sixteen minims. This injection only allayed the pain of the cleansing to a slight degree. On July 30th, Dr. Brackett again gave our patient nitrous oxide gas, enlarged the opening into the antrum by means of a small burr attached to the dental engine, and afterward washed out the sinus readily, effectually, and painlessly.

The liquid thrown into the maxillary sinus on this occasion came freely out of the left nostril, and carried before it the pus contained in the antrum and the left nasal passage.

July 31.—Nitrous oxide gas inhaled. Injection through the antrum not entirely successful, as it did not appear in the left nostril, but returned through the alveolar fossa. Tent reintroduced.

August 1.—No pus withdrawn when the tent was taken out. Injection perfectly successful, forcing before it a quantity of inspissated pus with a markedly offensive odor.

Tent reinserted. Left nasal passage still much occluded; pus continues to come from it in considerable quantity, although somewhat diminished since the injections were begun. The injections still occasion severe neuralgic pains, radiating in different directions, and especially toward the left orbit, the left ear, and the teeth of the lower jaw on the affected side. As the injected liquid does not pass into the pharynx, which is common in analogous cases, but flows out through the left nostril, it is probable that the main occlusion in the left nasal passage exists posterior to the nasal orifice of the antrum. Examination with a probe serves in part to confirm this belief.

3d.—Nitrous oxide gas administered yesterday and to-day. Opening into the antrum further enlarged with a dental burr. Injection of antiseptic fluid followed.

Reinsertion of tent, soaked in tincture of opium. Patient suffered acutely yesterday evening; relieved by half a grain of morphine internally. To-day one drachm of salt to a pint of warm water was used as an injection by means of the continuous douche-bag, raised to a considerable height. The injection was continued until the solution came freely through the left nostril and was perfectly clear. Patient acknowledges that the left nasal passage is now comparatively pervious.

5th.—Patient passed a comfortable night, and was *not* obliged to take an anodyne. The discharge from the nose is much less, and she can blow it easily and satisfactorily. Her general condition has greatly improved.

10th.—Tupelo tent introduced through alveolar cavity, instead of cotton tent; washing continued; daily improvement.

11th.—Washed out antrum with tincture of iodine and salt water, the proportion being half an ounce of the former to a pint of the latter.

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* Read before the American Laryngological Association at its eighth annual congress.

19th.—Discharge from the nose had diminished so much that the tent was finally withdrawn, and the injection into the antrum stopped.

In the case narrated, the patient's general condition was evidently poor, and she was a sufferer from dysmenorrhœa and leucorrhœa. There is no doubt that the predisposing cause of the suppuration of the antrum should be recognized as being the deterioration of the blood. It is obvious, however, that the extracted molar tooth, whose palatine fang was diseased, was the efficient or exciting cause of the local inflammation. Such examples, I am informed, are not very infrequent in dental practice. They rarely show themselves or are treated in throat clinics, and, as the method reported in detail is simple and rational, and proved curative, I am confident that the history is one of some interest.

Another case of suppuration of the antrum I saw in October of last year. The patient was sent to me by Dr. D. B. St. John Roosa, of New York, and was accompanied by his usual medical adviser, Dr. Hagadorn, of Gilboa, New York.

E. J., thirty-one years of age, married, day-worker, has had a purulent discharge from the right nostril during the last six months. One week ago a slight similar discharge from the left nasal passage was also noticed. In warm weather the discharge from the right side of the nose becomes thin. At times the discharge is alternately mucous and purulent in character, and, with this variation, lasts during several days. Every morning, at present, about a tablespoonful of liquid comes away from the left nostril, or from both nostrils. To-day the discharge was wholly purulent.

There is no pain or swelling over the cheeks. My patient suffers, however, considerable distress from pain over the eyes. The purulent discharge flows from his nose, at times, when he inclines his head forward. This fact has been verified by his family physician. Patient is of the opinion that the purulent discharge has diminished in amount during the past month, under the use of medicated sprays applied frequently to the nasal passages. Some months ago he suffered from vertigo, and even now he has dizzy or other unpleasant sensations in the head, which are difficult to define, whenever he moves his lower jaw suddenly. Upon rhinoscopic examination, both middle turbinated bodies are found to be much swollen, and the right nasal passage contains abundant purulent liquid. This secretion flows into the naso-pharynx, and is there visible. Except for the presence of pus, the throat is in a healthy condition. On careful examination no necrosed bone can be detected in any part of the nasal passages. The wisdom tooth of the upper jaw on the right side is carious. There is, however, no tenderness or swelling in the vicinity of this tooth. The diagnosis made is suppuration of the right antrum. The following treatment is advised: Cauterization of the right middle turbinated body by means of chloro-acetic acid after a cocaine spray has been used; thymol spray twice daily, so soon as the immediate effects of the cauterization have subsided. In the event of the purulent discharge continuing, extraction of the carious wisdom tooth is counseled, to be followed by perforation and washing of the right antrum.

On May 11, 1886, Dr. Hagadorn wrote me word that this patient was decidedly better. There is, at present, no discharge from the right nasal passage except, as he expresses it, when "he takes cold." Dr. Hagadorn further writes that this patient did not have his wisdom tooth extracted, and he presumes the antrum has nearly or quite healed, from the fact that there is no discharge whatever, except as stated above, and the tenderness over the site of the antrum has entirely disappeared. The plan of treatment followed from the time I saw him until January 1, 1886, consisted simply in spraying the nasal passages daily with a mixture of tannin, glycerin, and carbolic acid. Since January 1st this patient has stopped all treatment.

In connection with the foregoing cases of suppuration of the antrum, I desire to refer briefly to a case of mucous inflammation of the antrum, in which the disease never reached the stage of suppuration; there was no carious tooth (although the first molar tooth was dead), and it seems to me probable that the antral affection was a direct extension of the catarrhal inflammation from the nasal passages.

W. E. H., mining engineer and hotel-keeper, single, twenty-six years old, resident of New York, was placed under my care by Dr. William T. Bull, in March, 1884. This patient had suffered more or less from nasal catarrh since he was ten years of age. He has had an acute attack during the past week. Except for this attack he has been freer from catarrh this winter than he has been during the past two to three years. My patient states that he always gets rid of his catarrh so soon as he visits the Rocky Mountains or the Pacific coast. When he is in that high, dry air, he feels much better, and only commences to suffer again from nasal catarrh when he comes to the eastern sea-board. Marked headache always accompanies an acute attack of nasal catarrh. This headache does not leave him until he has a moderate or profuse discharge from the left nostril. The discharge is transparent, but yellow in color. Twelve years ago he had a gelatinous polypus removed from this passage; at present there are no traces of it. Accompanying the acute attacks of nasal catarrh, pains shoot down from the forehead into the eyes and teeth; soon they become general. At the same time there is an abundant yellow mucous discharge from the left nostril every three or four hours. Usually it occurs when the head is inclined to the right and downward. It only takes place during the progress of an acute attack of nasal catarrh, and shows itself in two to four hours from its inception. Before the mucous discharge is noticed, the patient has pain over the eyes and through the antra. The pain in the region of the left sinus is more accentuated than in that of the right. The pain is of a dull, heavy character, and never very intense. The eye teeth become very sensitive. The eyes themselves are unaffected. Ordinarily there is a very unpleasant taste in the mouth during the course of the acute attacks. The smell is obtunded at these times, and sometimes noises in the ears are quite distressing. These noises are most intense in the left ear. Vertigo is an occasional symptom. Each attack lasts three to four days, and recurs several times during the winter. Attacks of sneezing and snuffling usher in the acute attacks, and these symptoms are apparently caused by taking cold. A cold taken always attacks the head and face sooner or later. When the acute nasal trouble has subsided, there still remains a fullness in the nose, with more or less snuffling, and a bad taste in the mouth. The breath does not become fetid. Digestion is normal. I prescribed one granule of hydrarg. bichlor., gr. $\frac{1}{60}$, three times daily after meals, and an ointment of carbolic acid and vaseline for the nose. On February 10th, three days later, my patient had improved somewhat. I made use of iodoform and bismuth through the nose by means of my powder-blower, and repeated the previous prescriptions.

February 18th.—I cauterized the left nasal passage with glacial acetic acid.

March 6th.—There was some difficulty in passing a soft metallic sound of medium diameter through the left nasal passage, because of submucous infiltration. Insufflation of iodoform through the nasal passages anteriorly, and application of a mixture of iodine and glycerin (one part to two parts) to the nasopharynx. I prescribed unguent. iodoform. and caps. cubebæ. Patient complains of crackling sensations in his ears.

10th.—Repeated everything.

18th.—Schneiderian membrane more inflamed. Powdered magnesia insufflated through the nose.

From this time until May 2, 1886, somewhat more than two years later, I did not see my patient. He then called upon me, and informed me that, since I had treated him, he had had no return of antral inflammation. Occasionally he had had an ordinary coryza, with slight pain over the maxillary sinuses, but he always recovered from these attacks without experiencing periodic and abundant discharges from the nose. In this case I believe the inflammation of the antrum was nearly concomitant with that of the nasal passages. In some of the attacks it is possible that this extension only took place subsequently by reason of continuity of a similar structure. Why such inflammation rarely, or never, goes so far as to produce suppuration, is explained by the fact of the ready exit of the mucous secretions by the orifice of the antrum into the middle meatus. Salten has shown that this aperture, although usually very small, is nevertheless of variable dimensions, and may be occasionally an opening of moderate size—so large, indeed, as to admit the tip of the finger. It is clear, from clinical and anatomical evidences, that sufficient drainage from the inflamed antrum takes place under ordinary conditions to prevent suppuration.

Suitable mild local treatment of the nasal passages is also conducive to a cure, and in this case was seemingly effective. More than once I hesitated with respect to its utility, and dwelt on the advisability of puncture of the cavity, and subsequent washing by means of antiseptic or astringent solutions. As the result shows (in this and the previous case), this was unnecessary; and in a similar instance, hereafter, I shall not be disposed to undertake it, so long as suppuration does not occur.

Cases of antral inflammation in which there is a periodic discharge of mucous fluid from one or both nasal passages, as a direct consequence of hypertrophic or atrophic nasal catarrh, are rarely met with. This is so true that, with a favorable opportunity of seeing such instances, if they really occur, I can not now recall any one except the example reported. That occasional congestion, however, of the maxillary sinuses does take place during the progress of certain cases of nasal catarrh, acute or chronic, I have little doubt. Such a condition is marked by weight, stuffiness, and dull or aching pain over one or both antra. Although these symptoms may become manifest, rarely do they change, or progress so as to become characteristic of advanced inflammation.

Thus it is, even with such congestion, that the discharges from the nose are not unlike what we notice in numerous cases of ordinary pituitary inflammation.

Perhaps the experience of others is very different from mine. If so, I shall be glad to become familiar with it. As to suppuration of the antrum, I have yet to meet with a case in which the direct extension of the disease from the nasal passages had evidently occasioned it. This is a singular fact, and to me somewhat unaccountable, especially in view of articles in late works on surgery which deal with the subject, and in which this ætiology is distinctly referred to as being present. Theoretically, such a sequel would be only natural, if attention were solely directed to the probable occlusion of the antral orifice, in the middle nasal meatus, as a usual result of inflammatory secretions. I can not, however, believe that this consequence often occurs, except in those instances in which there is discovered a carious tooth, alveolar abscess, or bone disease of the superior maxilla.

As a point of some practical interest, I would refer to the fact of the rapid closure of the artificial opening into the antrum, unless it is kept moderately distended by a tent of some kind. Of course, as has been done already on several occasions, a cannula fixed to adjacent teeth may be inserted; but, as this cannula should be plugged between the times of washing, so as to prevent the entrance of food and liquids into the sinus, its great or special utility is not obvious in every case—and, moreover, a suitable cannula is not always at hand when the occasion demands it.

Note.—It may perhaps be of some additional interest to the reader to know that I have now (February, 1887) under my care another case of suppurative disease of the left antrum, apparently caused by a diseased molar tooth. This case is being treated by me in a similar manner to the first case reported in my paper, *i. e.*, by daily washing of the antral cavity with an antiseptic solution, the offending tooth having been previously extracted and perforation effected with a dental burr through the alveolus.

GONORRHŒAL RHEUMATISM,

ESPECIALLY IN THE FEMALE.

By FRANK HARTLEY, M. D.

When one considers the enormous frequency of gonorrhœa in the female and the great number of those once having it who remain uncured and who can communicate it—facts first broached by Noeggerath in 1872 and subsequently substantiated by Olshausen; by Schwarz, who believes that 10 to 15 per cent. of this large number remain uncured and can communicate it; by Sänger, who found it in one ninth of all his cases; by Oppenheimer and Lomer, who found it in so many cases of pregnant women (20 to 56 per cent.); together with the careful manner in which the urethritis and urethritis externa have been studied by Martineau, Lustikow, Welander, Belleli, Guedenay, Guérin and Harmonic Œdmansson, De Sinéty and Henneguy; its extension to the kidney, as shown by Bockhart and by Aufrecht, who found the gonococci in the liver, spleen, and kidney; the "bartholinitis" either as a suppurative adenitis or a chronic inflammation of the ducts, as studied by Bumm, Arming, Welander, and Fritsch; the purulent endometritis and vulvo-vaginitis, as studied by Bumm, Schwarz, and Ruge; the vulvo-vaginitis in children by Pott and Widemark-Lennander; the condylomata acuminata by Hildebrandt and by Schwarz, who never saw them in any other discharge, no matter how profuse or lasting; the salpingitis and perioophoritis, the sterility and disordered menstruation arising therefrom, as studied by Mercur, Martin, Sänger, Lawson Tait, and Westermark, who found the gonococcus in a case of pyosalpinx—we are immediately struck with the fact that since the discovery of the gonococcus no one seems to have paid any attention to the rheumatism, especially in the female. As to the rheumatism, the most varied views have been entertained as to its origin and frequency since the time of Musgrave, in 1723.

Some have said that it was only an accidental combination of gonorrhœa and rheumatism; some that it was the result of the inflammation of the mucous membrane of the urêthra, and from there an absorption of a morbific agent (Lesègue). Some have spoken of the specific character of the rheumatism, basing their views upon the peculiar relation existing between the gonorrhœa and the reappearance of the joint trouble with each successive attack. This recurrence has been observed to exist three successive times by Gerhardt and seven times by Volkmann. This fact, coupled with its withstanding all treatment directed against articular rheumatism and with the character of the fluid within the joint, led Volkmann, Laboulbène, and Haslund to regard it as a specific rheumatism depending on gonorrhœa and due to the same cause. This view has been proved by Petrone and Kammerer conclusively so far as the joints alone are concerned. Since the time when Neisser first discovered the pathogenic micro-organism of gonorrhœa, and Bockhart by cultivation and inoculation showed it to be the causative agent, many have been busied with trying to obtain more proof of its correctness. The first were Ehrlich and Brieger, but with negative results. Afterward Petrone found gonococci in the joints in two cases on the third and fifth days. He also found them in the blood of one patient suffering from gonorrhœal rheumatism. Kammerer in one case, on the day after the fluid had collected in the joint, found them arranged in twos and fours within the cells. On the fifteenth day he was unable to find them in the same joint. Haslund, though believing in the identity of the process, was unable to find them in four cases examined on the second, third, eighth, and seventeenth days. R. J. Hall found them in one case which was reported at the Clinical Society of this city in 1885. Wyschemirski (in the elbow joint, twenty-sixth day), Horteloup (in the sternoclavicular joint), Lowenstein (in the hip joint on the fourteenth day), Bergmann (in the knee joint on the twenty-second day), have all found the gonococcus in cases of rheumatism.

On account of the inability of some observers to find the gonococcus, they have spoken of the disease as being the result of a mixed infection in which the urethra forms only the point for the entrance of other organisms or of the gonococcus as the larva of an infectious disease. The gonococcus exists only at the commencement of the process, and in either case is replaced by other forms of organisms; in the first case by an organism entirely different from the gonococcus (the *Eitercoccus*, Loeb), and in the second case by another stage of development of the same organism causing the gonorrhœa.

In reference to the rheumatism involving joints I have five cases to report, in four of which the gonococcus was found both in the joints and in the genital or urinary organs. All the patients were females.

Case I.—Annie B., aged five, was admitted in September, 1885, to the New York Hospital, Out-door Department, with her mother and two sisters, aged, respectively, three months and eight years. The mother stated that her child's ankle joint, which was swollen, red, and painful, had been so for three days, and that the same child had been treated for pains in other parts of the body about ten days before. No history of trauma could be obtained. A purulent vulvo-vaginitis was present. The mother also stated that she herself had suffered from whites, which had been worse at times, but had never amounted to anything, nor had there ever been an acute attack. Her youngest child had been born with "sore eyes," for which she had been treated by a physician, and her oldest child had also a discharge from her privates which had lasted about five weeks. At the present time the youngest child has granular conjunctivitis and opacities of the cornea; the elder vulvo-vaginitis and synovitis of the ankle joint; the eldest vulvo-vaginitis. The mother has a discharge from the cervix, urethra, and peri-urethral glands. Nothing was seen about the vulvo-vaginal glands. Specimens were taken from the elder, both from the vagina and the ankle joint, on the day of admission, and were examined. The fluid from the joint was a somewhat tenacious, cloudy fluid, containing a large number of leucocytes, and in it gonococci were found. They were arranged in twos and fours, of characteristic shape, and were within the cells. Six specimens were examined, and they were found in two. The discharge from the genitals showed abundant gonococci. On the second day following, when the mother was examined, no gonococci were found in the cervical discharge, but they were present in the urethral (1–4). In the specimens from the youngest child, who had ophthalmia, none were found. In the oldest child they were present.

Case II.—Mrs. T., aged twenty-six, was admitted to the out-door department of the Roosevelt Hospital in June, 1886. The patient stated that two months ago she gave birth to a child, had no trouble during labor, remained in bed about three days, and since then had done her usual work. Her child suffered from sore eyes at the time, for which he had been treated and was then well. She had suffered from her knee for the last two days. She admitted having had whites for a long time, that they had been worse since the birth of her last child, and that for the last three weeks she had had painful micturition, and was then raw about the privates.

On examination, the vagina was found to have an abundant muco-purulent discharge, the urethra was red and swollen, with a greenish-yellow discharge. The vulvo-vaginal glands were involved. The discharge from the cervix was well marked, and there was an erosion on the posterior vaginal wall near the cervix. The right knee joint was swollen, red, and painful. The parasynovial tissue was involved.

Diagnosis.—Catarrhal synovitis, probably gonorrhœal. The discharge from the urethra and cervix was examined. In the cervical discharge only one out of nine specimens showed gonococci. In the urethral they were present in every specimen. Joint-fluid was examined and gonococci were present in one in eight specimens, within the cells and arranged in characteristic form. The fluid contained many pus-cells. She refused any treatment except a posterior splint, with corrosive-sublimate irrigation, 1 to 5,000.

Case III (Roosevelt Hospital, Out-door Department).—Annie S., eight years, August 20, 1886. The mother stated that for two months her child had been suffering from a discharge from her genitals, with frequent micturition. On examination, the vulva was found to be red and swollen and covered with a greenish muco-purulent discharge. The vagina was covered also with the same, and was red and swollen as far as could be seen. The urethra was involved. The discharge was collected, but it was impossible to isolate the urethral from the vaginal discharge. Gonococci were found in two out of five specimens, mingled with other forms, but in the cells, and arranged in groups of twos and fours. The treatment consisted in corrosive-sublimate irrigation, 1 to 10,000.

August 25th.—She appeared with synovitis of the inter-phalangeal joint of the left thumb. The inter-phalangeal joint of the right thumb was also involved, but only slightly. The right ankle joint was likewise swollen and painful. The mother stated that her trouble began in the ankle and left thumb the day before, and to-day she had first noticed it in the right thumb. They were all red and swollen, and fluctuation was obtained in the left thumb, but not in the right one. The inter-phalangeal joint of the left thumb was punctured. The fluid obtained was yellowish and sticky, and contained a number of pus cells and a few blood-corpuscles. Gonococci were found in two specimens. The ankle joint would have been examined, but it was not allowed by the mother. The mode of infection could not be obtained.

Case IV (Roosevelt Hospital, Out-door Department).—Lizzie M., four years, Martha M., seven years, and Jennie H., eight years. The mothers of these children stated that the first had been outraged two months previously; that she and her sister Martha had always slept together; that Lizzie had had trouble with her water ever since.

August 19, 1886.—Of the first two, Lizzie had still some discharge from the vagina. Martha had a vulvo-vaginitis with rheumatism, involving the ankle, elbow, and wrist. The elbow and wrist had never been so severely affected as the ankle, and were then recovering. The ankle joint was still the seat of a well-marked synovitis with involvement of the parasynovial tissue, and, according to the mother's statement, it had lasted eleven days; according to the child's, twelve days. The joint was still swollen and painful. No heart murmur was present. Specimens from the genitals of both girls showed abundant gonococci. The fluid from the joint was examined, but no gonococci could be found in eleven specimens, though the fluid was of the same character as existed in the other cases, containing a number of pus-cells. Any further attempts to obtain fluid were denied by the mother, which is to be regretted, for I firmly believe that, had it been possible to obtain any, my belief would have been unquestionably proved.

The third patient, Jennie H., had a vulvo-vaginitis, but no rheumatism. Gonococci were found in the vaginal discharge.

From the mother's statement that the youngest one had been outraged, and that the two children had always slept together and had used the same towels, basins, etc., I think it very probable that Martha obtained it from Lizzie, and it is even more probable when we find that Jennie, after being with them here (the original case having occurred in Philadelphia), also acquired a vulvo-vaginitis. Though no gonococci were found in the joint, I still think it a clear case of gonorrhœal rheumatism. The case would not have been reported at all, except that the evidence in favor of its origin is so strong.

Case V.—Sarah D., aged nineteen, a native of Ireland, married, cook, was admitted into Roosevelt Hospital, August 9, 1886. Her family history was negative. She had had one child born at full term, which had died of cholera infantum. She had always been healthy; had had no rheumatism and no Bright's disease. There had been no joint diseases in the family. She denied all venereal diseases; no symptoms of syphilis or tuberculosis were present. Her husband died of consumption fourteen months ago.

She stated that six days before, without known cause, she had pain in the knee. It began to swell, and on the 5th the pain had increased so much that she was obliged to go to bed. The joint had enlarged rapidly. She had been unable to put her foot to the ground, and motion in the joint became very limited. It had been painful to pressure. She had had leucorrhœa for a long time, but never at any time an acute disease of any kind about her genitals. She had never suffered much at her menstrual periods, nor was there any history before marriage of disturbances in the duration or amount of pain at her menstrual periods. She admitted having had more pain and been more irregular since marriage. Three weeks ago she had painful micturition, with some burning about the privates, which lasted several days, during which time she made water frequently.

On examination, the left knee was found to be swollen, fluctuating, hot, and painful to the touch. Motion was limited and produced great pain. The patella floated and gave with pressure the characteristic "click." The skin was reddened. There was some œdema about the joint. (Iodine had been painted upon the joint before admission to the hospital.) The leg was flexed upon the thigh 45°. The left knee measured 42·5 ctm.; the right knee, 37 ctm. Temperature, 103° F. No chill.

Diagnosis.—Gonorrhœal synovitis—catarrhal.

August 10th.—Temperature, 102° a. m., 103° p. m.; no chill. Specific gravity of urine, 1·026; no albumin; slightly cloudy, otherwise normal.

11th.—Temperature, 102° a. m., 103·5° p. m.

12th.—A needle was passed into the joint and a grayish-yellow sticky fluid obtained. Gonococci were found within the cells, arranged in twos and fours, in two specimens, and were examined by Dr. Woolsey, the house surgeon, and myself.

14th. Operation.—Drainage and irrigation of the knee joint. One gallon of a one-to-forty carbolic-acid solution was washed through the joint.

17th.—The temperature has steadily fallen; it is to-day normal. Patient is averse to having her urethra and vagina examined. Three tubes removed.

20th.—Last tube removed.

24th.—Drainage-tube openings all closed.

September 7th.—Plaster splint applied and she is walking about the wards.

21st.—Discharged with motion to nearly a right angle. No fluid in the joint. Slight crepitation can be felt on the left side of the patella.

26th.—Has been "sick" for four days. She says her "whites" are worse. Some frequency of micturition. Discharge obtained from urethra four specimens, six from vagina. Gonococci found sparingly in one of the specimens from the urethra. There was no return of pain or swelling in the joint during the menstrual period.

November 3d.—Seen again in the dispensary. Motion is still good. Can nearly flex to the full amount. Complains of no pain in the joint.

The cases reported above are only such as involve the joints, but it seems scarcely probable that an affection like gonorrhœa will limit itself to the joints, for when one examines the literature upon the subject he finds ample proof of at least a very close connection between the gonorrhœa of the urethra and other portions of the body. Terillon's report of two cases in the psoas bursa; Railton's of a case of endocarditis; Morel's of two cases of pericarditis and eleven of endocarditis; Marly's statement that gonorrhœa may be found in all serous membranes, and that the so-called rheumatism is not always the connection between the specific inflammation and the disease of the serous membrane; Petrone on the possibility of certain eruptions in gonorrhœa resembling roseola and scarlatina being due to the presence in the blood of the gonococcus; Fournier's that gonorrhœal ischias occurs most frequently with other complications (arthropathies, tenosynovitis, and ophthalmia), and that it recurs with the exacerbations of the gonorrhœa; Basset's report of the occurrence of conjunctivitis, tenosynovitis, and multiple synovitis in a single case; Scarenzio's report of two cases of ischias alternating with the arthropathies; Harly's on the involvement of muscles, and many others in their reports upon the arthropathy of gonorrhœa—all speak in favor at least of a very probable connection between the inflammation of the urethra and other organs.

When we look at the various and many organs in which the gonococcus has been found, and the reported cases where, though not found, the proof of the process being the same was at least probable, we ought, I think, to find more cases of the disease than we do. I do not believe the so-called gonorrhœal rheumatism to be so rare as generally stated, 1–35–66, and less so in females, for I see frequently in women and children cases where one is ultimately reduced to a diagnosis of a gonorrhœal infection, in a few of which I have been fortunate enough to find a return of the myositis—in one case of the tenosynovitis, in two cases with an exacerbation of the gonorrhœal urethritis—proving, at least, a very close connection between the two. In the male, one is seeing constantly cases where the joints, sheaths of tendons, muscles, and nerves (?) are, in all probability, gonorrhœal, and in these one easily obtains an examination of the genitals to aid the diagnosis; but in the female this is often impossible, or, at least, attended with difficulty. They, moreover, conceal any such trouble with their genitals, and the case is liable to be passed over without the proper diagnosis being made.

Considering the careful and thorough manner in which the disease has been investigated so far, it seems that our efforts should be in the line of the gonorrhœal infection in other organs than the joints, and especially in the females.

In the chronic and insidious forms of gonorrhœa, with the exacerbations at the menstrual period and during and after pregnancy, at which time its virulency is most marked, we should be particularly vigilant, and we should, if possible, establish their gonorrhœal nature by the presence of the gonococcus, and, if not, establish the possibility of a mixed infection, whether that be one in which two specific pathogenic organisms act at the same time—as is seen in the combined inoculation of vaccinia with erysipelas, with syphilis, or with impetigo contagiosa; or one in which one specific type follows during the activity of another—vaccination during measles, parotitis epidemica, or varicella; or one in which the first only prepares the soil for the development of the second—as in diphtheria and gangrene following suppurating wounds, abscess and gangrene in pneumonia, and the rheumatic joint troubles following convalescence from the exanthemata, dysentery, and diphtheria. Although as yet bacteriologists have not decided positively the question whether such rheumatic joint symptoms are the result of the primary infection, or are dependent upon a secondary infection, still it seems probable that during the existence of or after the lesion left by a gonorrhœa one might have a mixed infection, so that the gonococcus would not be found, although the secondary symptoms might point to a probable connection between the urethra and the secondary joint trouble. It should be our aim to solve this problem.

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CARLSBAD
FROM THE PRACTICAL POINT OF VIEW.

By C. FAYETTE TAYLOR, M. D.

As the season approaches for our annual exodus to Europe, physicians will be consulted, by increasing numbers year by year, in regard to the different European baths, concerning which they are expected to give at least some general advice and direction.

There is no place so important, none frequented by so many people for purposes of health alone, none so capable of benefiting those suited to its regimen and waters, none so likely to prove injurious when improperly used, and none which it is equally necessary to understand before venturing to give opinions to persons asking to be directed whether to go to or to stay away from it, as Carlsbad.

Having passed two seasons of more than the usual length at Carlsbad, and the intervening time in localities where I frequently met patients who had used, and physicians who had prescribed, and knew the effects of Carlsbad waters, I venture to offer some statements in regard to the subject in the hope that they may be of use to those who have neither the time nor opportunity to study it thoroughly.

The seeker after information ought to be made to understand at once that Carlsbad is not suited to those persons who make the plea of health-seeking but whose paramount object is to have a "good time." It is not a watering-place in the American sense of that term. There is no *fun* in Carlsbad. People go there with the serious purpose of gaining health, though it is pleasant enough when one has an object in being there.

The queer old place, squeezed in a narrow, winding valley; the many springs and the people of all nations who frequent them; the finely wooded hills and splendid paths in all directions through them; the cafés suddenly come upon in unexpected and pretty places; the picturesque country to drive through, when one wishes to drive—make it easy enough to pass the time when there. But there is nothing to go for except the waters, or to wait for after one is through with them.

The climate is bad. It is a mountain climate, with sudden, often extreme, changes of temperature, and frequent rains. Winter clothing should be worn, and overcoats and shawls should be carried on every half-hour's walk or drive when it is not actually warm. Out of doors umbrellas are never dispensed with. All rooms contain the German "Ofen," or tall porcelain stove, and persons at all feeble ought to be charged to have a little fire whenever there is a sudden fall in temperature, especially if accompanied with rain, as it generally is. There are, however, many bright, warm, and beautiful days in Carlsbad, sometimes weeks of them, but, as one is not sure of good weather at any season, it is better that prospective patients should understand what the climate really is, so as to be prepared for whatever may come.

In a word, Carlsbad is a health resort and nothing else. This fact having been made clear, shall the inquirer be advised to go there or to stay away?

This is no light question, and requires careful consideration before it can be properly answered. It is right to say, in general, that young persons and persons constitutionally feeble are rarely fit subjects for the Carlsbad course. No person is a fit subject till it has been found, by careful examination by a competent physician, that his case can be classified among those likely to be improved at Carlsbad. The final determination had better be left, in most cases, to the Carlsbad doctors. These are generally men of ability and character, and deserving of confidence. As they labor under the great disadvantage of being obliged to form conclusions and prescribe on very slight personal acquaintance, it is always better to give letters of introduction, when possible, in which any peculiarities of temperament or constitutional idiosyncrasies, when such exist, may be mentioned. Some delays and occasional mistakes might thus be avoided. But on no account should a person be allowed to go to Carlsbad without ample warning that it is dangerous to use the waters without professional advice, as one may happen to fancy, or as one may have been accustomed to do at Saratoga or Sharon. Carlsbad waters are strong, and produce a profound impression on the organism, which is the more important for the patient to know, because it is not usually accompanied by corresponding evidence to the senses of its action.

The typical patients for Carlsbad are, according to my experience and conviction, those with certain affections of the glandular system, especially of the liver and kidneys, and of the mucous membranes. Perhaps I might better say, all those affections depending on, or accompanied by, general capillary stases, terminable in some form of direct disintegration, but excluding cases, like tuberculosis, in which there are formative processes of a low order preceding disintegration.

At any rate, one important effect of the Carlsbad waters seems to be the thorough washing out of the capillaries. Hence the important service it renders the mucous membranes and glands when the nutritive fluids find difficulty in circulating through them.

Unquestionably the circulating fluids undergo important modification of constitution before accomplishing their more complete diffusion; but experience proves that the line of safety is well defined, and with careful watching need not be crossed. Whatever may be the true explanation, it is certain that very remarkable ameliorations take place under the influence of Carlsbad waters temporarily taken into the circulation in certain conditions. This is especially the case in chronic catarrh of the alimentary tract and in passive congestions of the liver and kidneys.

It is undoubtedly true that the largest contingent of patients at Carlsbad is furnished by persons with affections induced by indiscretion in eating and drinking, and for whom a carefully regulated abstemious diet constitutes a necessary part of their treatment. But it would be grave error to suppose that there are not many cases of the opposite character for whom the Carlsbad course is highly beneficial.

Indeed, the most remarkable improvement in any case coming under my observation was that of a person whose habits were so correct that no important change was made in his manner of living.

The most important question to be considered in regard to Carlsbad is as to whether the condition of the patient classifies him among those whom experience proves are likely to be benefited; the remote or even proximate cause of the gastro-intestinal catarrh, or even albuminuria, for instance, while important, is not determinate in considering the propriety of the Carlsbad treatment. Feeble persons having the proper pathological conditions need not hesitate in regard to visiting Carlsbad, provided they use care and discretion corresponding to their weakness. Above all, patients should be impressed with the idea of so regulating their lives in regard to eating, drinking, and exercise as to accomplish the purpose with the smallest amount of the water drunk and baths taken, instead of trying to see how much they can take, as is often the case.

From the preceding remarks it is easy to see that I do not agree with those persons who assert that the acknowledged beneficial effects of the Carlsbad course are principally due to the enforced dietary, and that the same effects could be obtained at home if it were possible to enforce the same abstemiousness in eating and drinking. Nor does the statement which has been made, that the effect of Carlsbad water depends upon the principal ingredient, Glauber's salt, contained in it, correspond with the clinical facts which have come under my observation. The fact is, in my opinion, that the results obtained by the judicious use of Carlsbad water in suitable cases are not obtainable in equal measure by any other means at present known.

There will always be a certain number of persons with affections pathologically suitable who can not afford the expense or who should not bear the fatigues of a long and wearisome journey, in whose behalf the question will arise in regard to the propriety of the home use of the Carlsbad water. It is a delicate question, but I do not hesitate to affirm that with proper management the use of Carlsbad water may be as efficacious at home as in Carlsbad itself, provided all the conditions for success are strictly complied with.

In the first place, the cases should be strictly suitable. Personally, I should confine them to those of biliary obstructions, chronic gastro-intestinal catarrhs, and renal conditions characterized by calculi, albuminuria, casts, blood- or pus-corpuscles. In the next place, home treatment should be attempted only where all business cares can be wholly set aside, leaving the person as free from occupation and anxieties as if he were on the other side of the globe. In the third place, a regimen should be prescribed and enforced of a quality and quantity that can be entirely digested and absorbed within three or not more than four hours after eating, leaving the stomach perfectly free at least two hours before other food is taken. As little fluid of any kind as possible should be taken, even to experiencing a certain amount of thirst. With such preparation bottled Carlsbad water may be prescribed with the certainty of producing effects. If the kidneys and liver are to be principally acted on, rapid absorption is desired. For this purpose the water should be taken as hot as it can be drank, not less than one hour before breakfast and with gentle exercise after drinking. The breakfast should be exceedingly light. The larger amount, in some cases the entire amount, should be drunk in the morning; but if more is required, an amount equal to one half the morning portion may be drank at noon.

In chronic gastro-intestinal catarrhs it is desirable to delay absorption, and for that purpose it is better to drink the water lukewarm at least half an hour before rising in the morning with very little exercise before breakfast, and the same amount after retiring to bed in the evening.

Exercise for general hygienic purposes should be taken in the middle of the day. In regard to the amount of water to be drunk, I believe that, with careful attention to the regimen, from two to four ounces at a time will be found amply sufficient. I am free to say that, in my opinion, too much water is frequently drunk at Carlsbad.

When it is desired to increase the effect, it may be more surely and safely done by enforcing a stricter regimen than by imbibing a large amount of water. Four weeks are generally sufficient, and six weeks the limit during which Carlsbad water may be profitably or even safely taken.

I have said nothing about the baths which are usually prescribed, because I have not much faith in their alleged therapeutic value. But the so-called after-treatment, which consists mainly in a continuance of the same regimen for a while and its gradual relaxation after ceasing to drink the water, together with continued repose of mind and body during several weeks, is an important, and not to be omitted, adjunct to the treatment.

The home treatment should not be attempted unless it is to be followed by the after-cure, to afford time and opportunity for the organism to recover from the general effects of the water.

Of the seventeen springs at Carlsbad, two only—the Sprudel and the Mühlbrunn—are bottled for exportation. There is no essential difference in their chemical composition. Carlsbad Sprudel salts are on the market, but as they do not contain all the elements of the water from which they are obtained, but are composed almost entirely of Glauber's salt, they should not be used except as a laxative.

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BAKED BEANS.

In the March number of the "Albany Medical Annals" may be found an article by Dr. Ephraim Cutter, of New York (formerly of Boston), entitled "Baked Beans; a Serio-humorous Medical Paper." Dr. Cutter's theme is one of never-failing interest to the American people, whom, indeed, it has divided into two wholly irreconcilable parties. With some exceptions, the inhabitants of a large part of New England, with Boston for a focus, are bean-eaters of an ardent and uncompromising sort. The bean-habit is acquired by the children at an early age, and possibly—so long has the addiction prevailed—there is an hereditary predisposition to it. Probably the narrow territorial limits of bean-eating make its hold on its adherents all the more stringent. Outside of those limits, mankind, with a few possible exceptions, loathe the flatulent bean and find it difficult to understand the esteem in which it is held in the heart of New England. So totally does each party fail to discern the slightest show of sense in the position taken by the other that both usually concede at once the futility of arguing the matter, and proselyting is recognized as nothing short of impossible. The bean-eater pities those whose prejudices shut them out from participation in his bliss, and everybody else sternly resolves never to spend a Sunday in Boston if he can avoid it. In view of this state of hopeless disagreement, it is somewhat remarkable that an investigator should have been found capable of treating of baked beans as an article of food with such freedom from prejudice as is exemplified in Dr. Cutter's article; and this is all the more admirable when we take into account the fact that in all probability the author is himself a devotee of the bean. This, however, does not restrain him from pointing out the difficulty with which that legume is digested and the pains that should be taken in cooking and eating it. He does not even deny, but rather appears to concede, that the bean-habit is to some extent at the bottom of the prevalence of consumption in New England.

The injurious effects of the bean are attributed by Dr. Cutter, who on this point is in accord with Dr. J. H. Salisbury, in great measure to its tough sac and to its stubborn starch granules, both of which, unless their spirit is broken by exceeding care in the cooking, require for their digestion almost the gizzard of a fowl or the confederated stomachs of a ruminant. Our author suggests that the bean sacs must "explode like microscopic dynamite bombs in the intestines." But it is not alone on the digestion that beans expend their deadly energy; secondarily, if we quite understand Dr. Cutter, they are apt to play havoc with a man's spiritual nature, for we read: "Do not go to church right after eating baked beans; they will stay in the stomach and their indigestion will do much toward spoiling the enjoyment of the exercises there." Whether the "exercises" referred to are those that go on in the church or those that take place in the stomach, we are not perfectly sure, but we fancy that Dr. Cutter's statement could command much corroborative testimony, whichever interpretation were put upon it.

THE ÆTIOLOGY OF CHOREA.

In a recent issue of the Berlin "Charité-Annalen," Dr. Litten has put forth a considerable contribution to our stock of facts bearing upon the morbid conditions which precede chorea and are generally interpreted as standing more or less in an ætiological relation to that disorder. Among the author's cases, there were two which seemed to depend upon lesions of the peripheral nerves, which are included under the rarer causes of the disease. Emotional disturbances, such as fright, furnished no small contingent of the ætiological factors observed by Litten, but in weighing the part played by psychical elements it is to be borne in mind that many such cases are merely complications of hysteria. Several clinical histories are related in illustration of the post-hemiplegic and pre-hemiplegic forms of hemichorea. In two fatal cases decided changes were found in the brain—in one of them a considerable meningeal exudation. Of considerable interest is a case of pulmonary tuberculosis in which chorea followed vertebral caries with softening of the cervical portion of the spinal cord.

The greater part of the paper is devoted to the question of the relationship between chorea and the acute infectious diseases and acute rheumatism. All the cases of chorea that appeared in the course of scarlet fever, intermittent fever, gonorrhœa, or septicæmia were complicated with synovial inflammation. The choreic movements never appeared immediately after the termination of the primary disease, or prior to the articular inflammation, but after the initial attack had been fully recovered from, and when the joint affection had become quite developed; so that synovial inflammation, the author remarks, may be inferred to be an agency intermediate between chorea and the acute diseases. Several cases of chorea were observed in the course of Graves's disease and pernicious anæmia. In reference to the question of the connection between acute articular rheumatism and chorea, the forty-eight cases observed by Litten are of particular interest, inasmuch as they all occurred in adults. Seventy per cent. of them were in women. Sixteen of them proved fatal. More than a third of the patients had had chorea either during childhood or at puberty, and had afterward had relapses, many of the latter following or coinciding with attacks of acute rheumatism. It is interesting to note that chorea made its appearance in the course of two cases of "rheumatic spinal paralysis"—a term which the author probably employs to denote spinal paralysis following exposure to cold.

Litten concludes that acute articular rheumatism and psychical disturbances constitute the best ascertained causes of chorea. This statement is strengthened, he says, by the circumstance that in repeated relapses of acute rheumatism each relapse may be followed by chorea. Regarding the endocarditis observed in chorea, he holds that it is always produced by the joint affection. He expresses himself as decidedly skeptical concerning the embolism theory of the origin of chorea.

MINOR PARAGRAPHS.

THE PHYSICAL TRAINING OF GIRLS.

It is not uncommon for members of the medical profession to inveigh against the almost world-wide neglect of the important elements of amusement and physical training in girls' schools. That so little has been accomplished in the direction of correcting the evil is probably to be attributed to the fact that those who have treated of the subject publicly have for the most part contented themselves with portraying and condemning the existing state of things, and have made no very definite or practicable proposals for remedying it. A striking exception is to be found in an address lately read before the Gloucestershire Branch of the British Medical Association, by Dr. Rayner W. Batten, senior physician to the Gloucester Infirmary, as we find it published in the "British Medical Journal." The speaker did not restrict himself to tracing the increased prevalence of anæmia and the like largely to the neglect of girls' physical education, but outlined what seems to be a very practicable and attractive scheme for providing school-girls with a due amount of open-air exercise having the character not of a perfunctory routine, but of wholesome and invigorating sport. He would have at least two half-holidays a week devoted to games played in a large open space, and, in the absence of special reasons to the contrary, every girl required to take part and to wear a suitable costume. He properly lays stress on the need of varying the games, and justifies the requirement by calling attention to the lack of symmetrical development in the devotees of any one form of exercise, specifying "the contracted chest and the stoop of a mere cyclist." Among the exercises that he would have practiced are swimming, fencing, cricket, football, fives, and tennis, and such games of speed and endurance as prisoners' base, cross-touch, etc. Dr. Batten thinks that the governing bodies of the higher schools should first be led to move in the matter, and he urges that it is the duty of medical men to seek by all means to influence them to do so.

THE ASHES AND GARBAGE NUISANCE.

The people of New York should feel grateful to the new president of the Board of Health for having brought forward the amendments to the sanitary code which we publish elsewhere, by virtue of which, it is hoped, the clouds of ashes and other light refuse that now so often fill the air at all times of the day will soon become a thing of the past, and the midnight roisterer cease to be tempted to pitch the contents of the barrels into the gutter. To lighten the labors of the gentlemen who collect the contents in carts, Mr. Bayles is reported as having suggested that "it would be advisable in all cases to consider the convenience of the Street-Cleaning Department, as its employees will have to carry the vessels to their carts and return them." This is a very considerate suggestion, and we look for a general and cheerful compliance with it, even if it should turn out that some artisan has taken time by the forelock and made up a stock of receptacles of a size and pattern so manifestly appropriate as to lead the board to urge householders to provide themselves with just that sort of vessel. Let us take to heart, too, the homily which, according to a newspaper report, Mr. Bayles addresses to the public, containing the following sentence: "Citizens will undoubtedly take better care of their refuse receptacles if required to keep them within their own premises than they consider necessary when permitted to place them where they are a nuisance to everybody except themselves." Without some such statement from an official, we might have continued to suppose that the depositing of the receptacles on the sidewalk was due to the demands of the employees whose convenience we are now called upon to consider, rather than to the average citizen's propensity to create a nuisance for everybody but himself.

THE UNIVERSITY OF LOUISVILLE.

It was with his customary skill that Dr. David W. Yandell prepared the address which he delivered at the recent semi-centennial anniversary of the establishment of the Medical Department of the University of Louisville. For many years the medical schools of Kentucky have figured prominently and honorably in the history of medical teaching in this country. In the case of the particular school attached to the University of Louisville this seems to have been due not alone to the character of the teachers, commanding as that has generally been, but in great measure also to the fact that the people looked upon the institution as something of their own, something in which they could take pride, and not as a self-dependent enterprise concerning the fate of which they could feel only the interest of curiosity.

Some of the past events brought out by Dr. Yandell are quite to the same purpose as Dr. Bowditch's contention, to which we alluded last week, that most of the absurdities in medical doctrine are but the recoil from a pre-existing state of error equally ludicrous. For example, take the teaching of John Esten Cooke, who "saw in bile, yellow bile, and black bile the hands on the dial-plate of disease which pointed unerringly to the one and only treatment"—that with huge doses of calomel "by day and by night, in season and out of season, first, last, and all the time." To such narrowness of doctrine Dr. Yandell traces the outbreak of Thomsonianism that held great sway over the country some years ago.

THE NOMENCLATURE OF ABDOMINAL OPERATIONS.

Mr. H. A. Reeves, of London, has written a letter to the editor of the "British Medical Journal," in which he expresses his dissatisfaction with the terms *gastrotomy*, *laparotomy*, and *malacotomy* to denote the operation of cutting into the abdominal cavity. His objection to the word *malacotomy*, suggested by Rabagliati—that it means only a cutting of soft parts, and is therefore applicable to other parts than the abdomen—seems to us perfectly legitimate, for the liberty taken in its construction far exceeds what is to be tolerated in the formation of technical terms from classical words. But this objection does not apply in the same degree to *gastrotomy* and *laparotomy*. It is true that the former is vague and unsatisfactory, but the application of Mr. Reeves's test to it would not bar it out, except for the practical consideration that it is important not to use a word that may mean either an incision into the stomach or simply an abdominal section. The term *laparotomy* seems to us quite unobjectionable, notwithstanding the fact that λαπάρα meant the loin, and not the entire abdomen, for ancient words are, by common consent, not necessarily used in scientific nomenclature with their precise original meaning. One good effect of giving them an increased range of signification is to limit the production of such hybrids as the term "ventrotomy," which Mr. Reeves suggests.

MILIARY ANEURYSMS OF THE SPINAL CORD.

These formations have not been noticed frequently, and when they have been found—even in cases so accurately described as Hebold's—they have not been assigned much clinical importance. But it is announced by Dr. Koehler and Dr. Spitzka, of New York, that, in one family at least, a diffuse miliary aneurysmal degeneration of the medulla is to be regarded as the anatomical basis of an hereditary spinal neurosis. The same symptoms—accurately imitating a typical multiple sclerosis—were found in members of two generations of this family. In one case, which terminated fatally in middle life, examination revealed extreme miliary degeneration of the spinal, less of the pontine, and still less of the cerebral blood-vessels, but some evidences of disturbed nutrition of the white substance.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 29, 1887:

DISEASES.	Week ending Mar. 22.		Week ending Mar. 29.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	10	4	6	4
Scarlet fever	51	11	40	11
Cerebro-spinal meningitis	1	1	7	7
Measles	170	20	113	18
Diphtheria	79	35	90	46
Small-pox	5	3	4	4

The Health of New York City.—During the five weeks ending Tuesday, March 29th, there were reported to the Sanitary Bureau of the Fourth Division of the Health Department 36 cases of typhoid fever and 20 deaths; 251 cases of scarlet fever and 60 deaths; 18 cases of cerebro-spinal meningitis and 18 deaths; 901 cases of measles and 116 deaths; 413 cases of diphtheria and 206 deaths; 55 cases of small-pox and 11 deaths.

The Medical Microscopical Society of Brooklyn will hold its next meeting on Wednesday, the 6th inst. Dr. Arnold Stub will read a paper on the tubercle bacillus, and practical microscopical demonstrations will be given.

The Removal of Ashes and Garbage.—It is announced that the city Health Department has resolved to add to the sanitary code the following provisions concerning receptacles for ashes and garbage:

> "And no such box, barrel, or tub, before or after it is emptied, shall be placed or permitted to remain upon the sidewalk or in any other public place, but shall be kept within or upon the premises of the person or persons to whom it belongs until removed therefrom for emptying by the authorized employees of the Department of Street Cleaning and by them returned to the place whence it was taken. . . . Such boxes, tubs, or barrels shall be placed or kept at all times in such places as to be readily accessible for removal for emptying and where they shall not be a public nuisance, and no person not for that purpose authorized shall interfere therewith nor with the contents thereof."

The Massachusetts General Hospital.—Dr. Francis Minot has, we are informed, resigned from the medical staff. It is reported that the vacancy will be filled by the appointment of Dr. Elbridge G. Cutler.

A Thieving Hospital Attendant.—A man formerly employed in the accident-room of the Boston City Hospital is said to have embezzled $240 from patients. It was his duty to take charge of and deposit in the safe all money and valuables in the possession of patients who were brought to the department. Instead of doing this, however, he retained them, and in January last suddenly disappeared. It is gratifying to be able to add that he has been apprehended.

The Kings County Medical Association.—The inaugural meeting will be held in Brooklyn on Tuesday, April 5th. The subject for discussion will be the oil of wintergreen as a therapeutic agent, on which the president, Dr. E. R. Squibb, will read a paper.

The New York College of Pharmacy held its fifty-seventh annual commencement exercises in Steinway Hall on Tuesday evening, March 29th, when a class of eighty-three was graduated.

The New York Hospital Training School for Nurses held its commencement exercises in the executive building of the hospital on Thursday evening of this week.

The Rochester City Hospital Training School for Nurses held its fifth annual commencement exercises on Thursday evening of this week, when diplomas were given to a class of eight.

The Medico-chirurgical College of Philadelphia will hold its sixth annual commencement exercises at Association Hall, Philadelphia, on Thursday evening, the 7th inst. It is announced that the annual address will be given by the dean of the faculty, Dr. P. D. Keyser, and that Dr. Dudley S. Reynolds, of Louisville, will deliver the alumni oration.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 13, 1887, to March 26, 1887:*

Gray, William W., Captain and Assistant Surgeon. Leave of absence further extended two months. S. O. 62, A. G. O., March 17, 1887.

Carter, William F., Captain and Assistant Surgeon. Leave of absence extended four months on surgeon's certificate of disability. S. O. 57, A. G. O., March 11, 1887.

Poindexter, Jefferson D., First Lieutenant and Assistant Surgeon (recently appointed). Ordered for temporary duty at U. S. Military Academy, West Point, N. Y., relieving Captain Richard W. Johnson, assistant surgeon, who will return to his proper station (Fort Adams, R. I.). S. O. 62, A. G. O., March 17, 1887.

Edie, Guy L., First Lieutenant and Assistant Surgeon. Leave of absence extended three months. S. O. 67, A. G. O., March 23, 1887.

Reynolds, Frank, Captain and Assistant Surgeon (retired). Died, March 3, 1887, at Oakland, Cal.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending March 26, 1887:*

Parker, J. B., Surgeon. Ordered to the U. S. Steamer Ossipee.

Siegfried, C. A., Surgeon. Ordered to Baltimore, Md., on special duty.

Hugg, Joseph, Surgeon. Placed on the Retired List, March 17, 1887.

Cordeiro, F. J. B., Assistant Surgeon. Detached from the Navy-Yard, Boston, and placed on waiting orders

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending March 26, 1887:*

Bailhache, P. H., Surgeon. To proceed to Mobile, Ala., Pensacola, Fla., Ship Island, Miss., and New Orleans, La., as inspector. March 14, 1887.

Long, W. H., Surgeon. Granted leave of absence for seven days. March 16, 1887.

Goldsborough, C. B., Surgeon. Granted leave of absence for thirty days. March 14, 1887.

Devan, S. C., Passed Assistant Surgeon. To proceed to Tacoma, Washington Territory, as inspector. March 19, 1887.

Long, W. H., Surgeon. Leave of absence extended five days. March 23, 1887.

Urquhart, F. M., Passed Assistant Surgeon. Relieved from duty at Norfolk, Va.; ordered to Washington, D. C., on special duty. March 22, 1887.

Pettus, W. J., Assistant Surgeon. When relieved by Passed Assistant Surgeon Guitéras, to remain at Charleston, S. C., waiting orders. March 24, 1887.

Society Meetings for the Coming Week:

Monday, *April 4th:* New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association (annual); Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society (annual).

Tuesday, *April 5th:* New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association (annual); Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Broome (quarterly) and Niagara (Lockport, quarterly), N. Y.; Medical Societies of Essex (annual, Newark), Hudson (Jersey City), and Union (annual, Elizabeth) Counties, N. J.; Androscoggin, Me., County Medical Association (Lewiston); Chittenden, Vt., County Medical Society.

Wednesday, *April 6th:* Harlem Medical Association of the City of New York; Brooklyn Medical Microscopical Society (private); Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association; Philadelphia County Medical Society (regular).

Thursday, *April 7th:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Washington, Vt., County Medical Society; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *April 8th:* New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *April 9th:* Obstetrical Society of Boston (private).

Letters to the Editor.

THE DUTY OF INSTRUCTING THE COMMUNITY IN MEDICINE.

Junction, Ill., *March 5, 1887.*

To the Editor of the New York Medical Journal:

Sir: In one of the Philadelphia journals I find a translation of the Hippocratic oath, which binds those who are about to enter the profession of medicine, by all that is sacred, to impart a knowledge of the healing art to those who are bound by stipulation and oath—and to no others. If the profession had earlier laid aside the old ideas of oaths and exclusiveness, and earnestly sought to extend among the people rational ideas respecting causes of disease and their avoidance, there would have been far more satisfaction and far less pain on this little globe called the earth. The way to eliminate quackery and sophistry is for the schools, the press, and each individual practitioner freely and zealously to disseminate the highest attainable light respecting everything pertaining to life, and a grateful and far happier people will sing the praise of a profession infinitely above the plane of mysticism and exclusiveness.

The author of an article in the same journal says: "It may have been my luck to meet with no very difficult cases." Seriously to admit the element of chance into the action of physical causes is to open wide the way for the introduction of sorcery, faith cures, and all manner of humbugs. . . . When the common schools impart more correct views respecting the physical structure of man and the nature of his surroundings, the practitioner of medicine will have to give other evidence of fitness for his profession than credulous faith in mysterious forces or subscribing to oaths or affirmations. The physician's sphere will not thus be limited, but extended and elevated, as all just and intelligent effort for the advancement of the whole people has greatly improved all classes. We certainly are highly indebted for the zealous co-operative efforts of our pharmacists, and a general law should require the publication of the formula on all medicinal preparations. Not that I would discourage the effort to secure happy combinations, but let their nature be set forth fully, that their merits may appear.

James H. Crain, M. D.

A REPUTED INDORSEMENT OF A DIPLOMA.

Bellevue Hospital Medical College,
New York, *March 24, 1887.*

To the Editor of the New York Medical Journal:

Sir: In what purports to be a list of registered physicians in the city of New York is the following: "Cate, William M., 37 W. 42d, h. Barrett House. Hom. Med. Coll. Mo., 1874; indorsed Bell., N. Y., 1883." There is no record of any such indorsement in the books of the Bellevue Hospital Medical College.

Austin Flint, *Secretary.*

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of January 20, 1887.

The President, Dr. A. Jacobi, in the Chair.

The Value of Quinine as an Antipyretic in Pneumonia.—Dr. J. H. Ripley first referred to his experiments with quinine, in 1877, to test its value in the control of pneumonia, reported by his house physician at St. Francis's Hospital, the late Dr. Langworthy. Those experiments, together with histories of cases added by his house physicians since that time, constituted the basis of the paper he was about to read. The number of cases taken into consideration was forty-eight, although there were many others in which less definite observations had been made. The drug was given only in cases in which the temperature had reached at least 103° F., and in which there were no complications. The quinine, when given by the mouth, was almost always in solution. The temperature was taken in the rectum. No experiment lasted less than four hours; the majority from six to twelve hours. In the earlier cases the temperature was taken every fifteen minutes; subsequently it was taken half-hourly or hourly. The time of day when the drug was administered varied, but when only a single dose was given it was generally in the morning. The patients were nearly all adult males, from nineteen to forty-five years old. The amount of quinine given daily was usually from twenty to forty grains, in a single dose or in repeated doses, by the mouth or subcutaneously. In one case a fall of 4° took place after the administration of forty grains of sulphate of quinine by the mouth; in the case of a child it fell 3·5°; in five instances it fell between 2° and 3°; in fourteen the fall was less than 1°; two cases showed no fall; two showed a slight elevation. In the remainder the fall was between 1° and 2°. The fall was always of short duration, and there was no uniformity in the time when it began nor in its duration. The time from the commencement of the fall to the permanent rise was from two to ten hours. The temperature, even when taken every fifteen minutes, constantly varied. The effect as to the frequency of the pulse and respiration was neither constant nor uniform. The frequency of both was usually a little diminished; sometimes the one was hurried and the other retarded. Of the six cases in which the temperature fell more than 2°, in four there was a history of malarial poisoning. So far as could be judged from these experiments, the most that could be expected from the administration of from twenty to forty grains of quinine daily in the active stage of acute lobar pneumonia was that it would reduce the temperature between 1° and 2° in about half the cases, while in the other half the reduction would amount to less than 1°. But it was not improbable that in a number of these cases the effect of the drug in lowering the temperature was only apparent, for there were recessions of temperature in pneumonia in the absence of any medication. Quinine had some bad effects, especially upon the stomach. Even in moderate doses it often produced anorexia and nausea. In large doses it not infrequently excited retching and vomiting, prolonged intolerance of food, and sometimes marked cardiac weakness lasting for several hours, occasionally associated with dicrotic pulse. Maximum doses often caused profuse cold perspiration. Epistaxis occurred in about 12 per cent. of the cases. Profound nervous depression, somnolence, delirium, muscular twitching and trembling, dilated pupils, and in two instances opisthotonos, were some of the results on the nervous system. In some of the cases the urine was examined thoroughly, and albumin was found much increased in quantity, and in one instance after the administration of quinine there appeared hyaline casts, which had not been present before. The author thought that these injurious effects of the drug more than counterbalanced whatever good might be derived from its temporary slight reduction of the fever. He had no evidence to show that it ever shortened the course of the disease or lessened the mortality. Frank, uncomplicated cases had run their course in spite of it, while in other cases additional portions of the lung or the opposite lung had become affected when the patient was under the full influence of the quinine. Too much importance had been attached of late to reduction of the temperature in different diseases. That quinine had any influence in arresting cell migration might well be doubted. The author's conclusion was that large doses of quinine should be abandoned in the treatment of pneumonia. If an antipyretic was indicated, antipyrine, or even salicylic acid, was more powerful, more certain, and less injurious than quinine.

Dr. M. Putnam Jacobi, by request, read an abstract of a paper which she had presented before the Section in Theory and Practice at its last meeting. [The paper is to be published.] The speaker also referred to certain experiments regarding the physiological action of quinine, so far as it might throw some light upon the subject under discussion. In pneumonia, quinine was not to be relied upon as an antipyretic. Antipyrine was more suitable. Quinine affected the fever in pneumonia only in so far as it affected the morbid processes, and it could not act upon tissue which had been actually inflamed, the blood-vessels of which were so seriously injured that hæmorrhage had taken place from them. The theoretical question of the action of quinine was discussed briefly.

Dr. J. Lewis Smith's remarks at the meeting of the Section in Theory and Practice had been to the effect that, the patients treated by Dr. Putnam Jacobi being dispensary patients, it was a question whether the quinine had not been vomited and, consequently, had had no effect on the disease. Doses of five grains given to children had, under his observation, proved a very good emetic. He usually gave only from half a grain to a grain, every four hours, for the tonic effect only.

Dr. Fruitnight's experience with quinine in pneumonia was, in regard to its effect upon the temperature, like Dr. Ripley's. He had never been convinced that it had reduced the temperature, but he would continue to give it in small doses for its sustaining effect. Being a cardiac depressant in large doses, it was more or less dangerous in pneumonia.

Dr. Billington had some years ago given quinine in large doses in pneumonia, but, having found that it produced unpleasant effects, abandoned its use. A large proportion of patients with pneumonia would recover without much medication.

Dr. L. E. Holt had used quinine in about twenty cases of pneumonia in children, in twelve cases the amount being sufficient to produce an antipyretic effect, if that was possible. In nine cases there was no such effect until after other antipyretic measures had been resorted to. His impression was that quinine, given as an antipyretic, was useless in small doses, and in large doses it was dangerous. The temperature of children with pneumonia ran an exceedingly variable course. Unless the temperature was continuously above 104°, or occasionally above 105° F., in pneumonia, it should not be interfered with.

The President said that during the past third of a century there had been a considerable change of opinion about quinine among physicians in and about New York. It was many years ago that he gained the reputation of overdosing his patients. He then gave as much as six, eight, ten, or twelve grains of quinine to children daily in pneumonia, but now we heard of much larger doses being given. He, however, seldom gave larger doses than he had given at the time mentioned, although he still had the credit of overdosing his patients. He gave the drug in one or two daily installments, when the fever was lowest, and he had obtained fair results. But there was no use in giving quinine or any antipyretic when the temperature in pneumonia was only moderate. Large doses—twenty, thirty, or forty grains—he regarded as harmful. Quinine, given during the exacerbation of pneumonic fever, would not be taken up by the stomach or rectum. Given subcutaneously, the best preparation was the carbamide. He seldom gave quinine in pneumonia now, as antipyrine was a better antipyretic. He agreed with the speakers who had said that when no medicine was required none should be given.

NEW YORK SURGICAL SOCIETY.

Meeting of March 9, 1887.

The President, Dr. Charles McBurney, in the Chair.

The Treatment of Old Dislocations of the Elbow.—A paper on this subject was read by Dr. Lewis A. Stimson. [See page 367.]

Dr. L. S. Pilcher thought that the case described by Dr.

Stimson must have been similar to one he had had under observation during the previous winter. If so, he thought that he might be able to clear up some of the obscure points in it. When he first saw the patient she was under the care of a skillful surgeon, who had made a diagnosis of fracture of the lower end of the os brachii into the joint, crepitus under manipulation having been distinct. At the outset of the case there had been no indication of a dislocation, as stated by that surgeon, although the conditions had been so obscured by great inflammatory swelling when the patient was first seen by the speaker that a satisfactory examination was difficult. It had been said that there had been threatening gangrene in consequence of previous too tight bandaging. In the course of time, after union had taken place and the swelling had subsided, he again examined the case. It was now apparent that a fragment, involving more or less of the external condyle, had been displaced forward and downward, and in its new position, where it had become fixed, encroached upon the articular surface of the radius, limiting the power of flexion at the elbow. There was also a partial backward dislocation of the ulna. Along the inner margin of the muscular mass of the forearm, which had its origin from the external condyle, there was a depression occupied by some fibrous, cord-like tissue. He believed that by the gradual degeneration and contraction of this tissue the displacements had been produced that had resulted in the final deformity and loss of function, these being consecutive and remote results of the original injury, a fracture. The limb had been dressed in a position midway between flexion and extension. He had never questioned the correctness of the diagnosis of fracture, although when he examined the patient the condition of the joint had been such as to render prolonged manipulation unjustifiable. The inflammatory swelling and the anterior mass would have been explained perfectly well by a fracture. The patient was under his observation for some time, and a day was set for an arthrotomy for its relief, when it disappeared. He had learned subsequently that the patient had entered Bellevue Hospital.

Dr. Stimson replied that in his case there was certainly no fracture of the lower end of the os brachii, but only an outgrowth on its outer side. When he excised the head of the bone he found that it was perfect, with the exception of the epitrochlea.

Dr. R. F. Weir remarked that the good results which had been obtained in cases of old dislocation of the elbow joint as time went on had led surgeons to leave these cases to some extent to nature. It was only of late that he had adopted such means as forcible flexion, division of the triceps tendon, etc., for the purpose of correcting the deformity. But he had come to the conclusion that more could be done in the way of radical treatment. Two German observers, Sprengel, of Dresden, and Schüssel, of Berlin, had shown that we could safely interfere at an earlier period after the accident than was generally supposed, that failure to reduce the dislocation should be followed by operation, and that the rent in the capsule produced by the original injury should also be sewn up. The prognosis was better the earlier the surgical interference.

Dr. A. G. Gerster said that his experience with old dislocations of the elbow embraced four cases, in two of which operations had been performed. In one instance (last December) the patient was a child two years of age, having a deformity similar to that described by the reader. It was first seen three months after the accident. Arthrotomy and excision of the joint were resorted to. A peculiar callus was found over the external condyle, which was shown on section to be due to a fracture of the condyle. After having sawed off the surface, it appeared necessary to detach this fragment, as it was so loosely attached to the os brachii that it would probably have become necrosed. In all the cases, in addition to backward dislocation of the forearm, the so-called "gun-stock" deformity had been marked. The speaker believed that it was possible that the periosteum might be stripped off, and that the interval between it and the bone might become filled with blood-clot, which would organize to form connective tissue and ultimately bone, although this had never been proved anatomically. In all the cases that had come under his observation there had been no doubt concerning the occurrence of fracture. In a case under the care of Dr. Daniel M. Stimson, at Mount Sinai Hospital (two years before), a young man had sustained a fracture of the external condyle and the capitellum, with dislocation forward, a callus being subsequently formed on the flexor side of the elbow, which prevented flexion. The bony deposit was removed, and the condition of the joint (as regarded flexion) was much improved. The two other cases, which had presented the same deformity, were still under observation. The accident must be more common in young subjects than was generally supposed. In the case mentioned in which he had operated, the speaker made a large incision, with the express purpose of obtaining a good view of the interior of the joint, and ascertaining the exact pathological condition. He found that the fragment, consisting of one third of the trochlea and the external epicondyle, together with the capitellum, was twisted around at right angles to the direction of the articular surface of the os brachii, so that the capitellum looked into the bend of the elbow. The diagnosis, he admitted, was not easy, especially for the reason that in many cases the patient could not be examined until several hours after the accident, when there was such an effusion of blood that the condition was obscured, and crepitus could not be obtained. The latter was the only positive sign of fracture obtainable. Most of these cases were not examples of simple dislocation, but of fracture complicated with dislocation backward and inward. As regarded the results of treatment, in his own case they had been quite satisfactory, flexion and extension being almost completely restored. He had performed arthrotomy in several other cases of dislocation, especially of the thumb. In one instance the flexor tendon had slipped over the head of the metacarpal bone. It was necessary to lift it out of its false position with a strabismus-hook. In another case (that of a boy of twelve) the dislocation was not seen until seven weeks after the accident, although reduction would have been easy if it had been practiced early. The third case was one of dislocation of the index finger of a boy. Reduction was readily effected by means of arthrotomy and division of the capsule. He had also performed arthrotomy in a case of old habitual dislocation of the shoulder joint in a young girl. Two months after the accident she entered Mount Sinai Hospital. Reduction was easily effected, but the bone would not stay in place, whereupon the speaker incised the joint, removed a portion of the lax tissue from the mesial side of the capsule, and closed the latter with catgut sutures, and the patient did perfectly well. In answer to a question by Dr. Briddon, the speaker admitted that dislocation was generally secondary to fracture. He called attention again to the frequency of "gun-stock" deformity in these cases, which Dr. Stimson had not noted.

The President said that, since Dr. Stimson had referred to a case in which he himself had operated, he thought it was proper that the result of the operation should be clearly stated. The patient was a child between six and seven years of age, with old dislocation of the hip, of nine months' standing, resulting from a fall; there were great deformity and disability. Some of the surgeons who examined the patient were in doubt as to whether the condition was dislocation or separation of the epiphysis. A free incision was made over the head of the femur;

the latter presented a normal appearance, but a piece of the articular cartilage was easily detached. The head was movable within an artificial sac which had contained about a drachm of serous fluid. The acetabulum was filled with a semi-gelatinous material. Reduction was easy after the division of a few adhesions; the wound was closed, and a hip-splint was applied. Neither fever nor other bad symptoms followed, although a sinus persisted for seven or eight months. The speaker examined the patient about a month before the meeting. He found the child well; on manipulating the limb, there was neither pain nor crepitus, and motion was fairly free. On introducing a probe, bare bone was discovered at the edge of the acetabulum. A free incision was made, and it was found that the whole head of the femur was carious, so that it was necessary to excise both the head and neck and to scrape out the acetabulum. The patient made a good recovery. In reply to a question from Dr. Weir, the president said that the patient was kept in bed after the first operation. He thought that the propriety of operating in cases of old dislocation was clear, but that an operation was more likely to be successful if it was undertaken early—not later than two or three months after the accident.

Dr. Gerster said that, as far as the propriety of arthrotomy was concerned, there was no question about it at the present day. Under the modern antiseptic system a surgeon would do wrong not to interfere if he could not reduce a dislocation, whether he saw the case early or not. In reference to the fatal case of Polaillon's, in which complete antiseptic precautions were said to have been observed, the speaker believed that the occurrence of phlegmon constituted in itself sufficient evidence that there had been septic infection. The natural inference was that no one ought to undertake arthrotomy who was not thoroughly versed in antiseptics, since he risked not only the patient's limb, but even his life.

Dr. Stimson repeated that in his own case there had been no fracture of either condyle of the os brachii. At the first operation the articular surface was found entirely unbroken, the outline of the part of the bone was normal, and the mass of new bone on the back of the external condyle was not at all like the callus of a fracture.

In reply to the objection that an effusion of blood would occur between the detached periosteum and the bone, and that this blood would prevent subsequent formation of bone by the periosteum, he said that, although it was not possible to disprove the objection by actual examination, it was yet well known that in the repair of fractures such formation of bone did take place under the detached periosteum. The speaker asked Dr. Gerster if suppuration had not occurred in the case of arthrotomy for dislocation of the shoulder to which he had referred.

Dr. Gerster admitted that suppuration had occurred, but it was due to the fact that there had been a serious error in the antiseptic details of the operation. The speaker believed that whenever pus was formed, it indicated some failure in the technique. In this instance the catgut that was used had been placed in an open vessel at an operation that had taken place two days before, had been left exposed all night, and had then been put into a bottle. This gut was used to tie the vessels at his operation. The patient had a violent chill the same night, with evident signs of septicæmia. The wound was opened and three ligatures were found surrounded by pus; the wound was subsequently treated by the open method and healed quite well. There had been no trouble in the joint itself, and the patient now had perfect motion.

Tumor of the Brain removed by Operation.—Dr. Weir presented a tumor that he had removed from the posterior occipital region of the brain. It was, he stated, the largest cerebral tumor that had been removed surgically. A full report of the case was promised at a subsequent date.

Book Notices.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

Asselin & Houzeau, Paris.—H. Roger and H. Barth, "Traité pratique d'auscultation, suivi d'un précis de percussion." 11th ed. (8*fr.*) —— Arloing, Cornevin, Thomas, "Le charbon symptomatique du bœuf," etc. (7*fr.*)

J. B. Baillière & fils, Paris.—Azam, "Hypnotisme, double conscience et altérations de la personnalité." (3*fr.* 50.) —— H. Hallopeau, "Traité élémentaire de pathologie générale." (12*fr.*)

A. Delahaye & E. Lecrosnier, Paris.—Hamon de Fresnay, "Études d'obstétrique pratique." (3*fr.*)

J. F. Bergmann, Wiesbaden.—R. Berlin, "Eine besondere Art d. Wortblindheit (Dyslexie)." (2*M.*) —— H. Brehmer, "Die Therapie d. chronischen Lungenschwindsucht." (6*M.* 40.) —— E. Lang, "Das venerische Geschwür." (1*M.* 60.) —— E. Pflüger, "Kurzsichtigkeit u. Erziehung." (1*M.*) —— M. Schächter, "Anleitung zur Wundbehandlung." (6*M.*)

H. Barsdorf, Leipsic.—J. Kühn, "Die Prostitution im 19. Jahrhundert u. die Vorbeugung d. Syphilis." 2 ed., by E. Reich. (5*M.*)

M. Breitenstein, Vienna.—A. Weichselbaum, "Der gegenwärtige Stand d. Bakteriologie u. ihre Beziehungen zur praktischen Medicin." (1*M.*)

F. Enke, Stuttgart.—P. Zweifel, "Lehrbuch d. Geburtshilfe." (16*M.*) —— E. Zuckerkandl, "Ueber das Riechcentrum. Eine vergleichende anatomische Studie." (5*M.*)

J. A. Finsterlin, Munich.—E. Rotter, "Die typischen Operationen u. ihre Uebung an der Leiche." (6*M.*)

G. Fock, Leipsic.—E. Knauf, "Frakturen des äusseren Gehörganges." (0*M.* 75.)

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Hirschwald, Berlin.—E. Henoch, "Vorlesungen über Kinderkrankheiten." 3d ed. (17*M.*) —— J. Seegen, "Studien über Stoffwechsel im Thierkörper." (14*M.*) —— A. Wölfler, "Die chirurgische Behandlung des Kropfes." (2*M.* 40.) —— H. von Ziemssen, "Die Elektricität in der Medicin." 5th ed. (12*M.*)

H. Laupp, Tübingen.—P. Bruns, "Beiträge zur klinischen Chirurgie." Bd. ii, Hft. 3. (3*M.*)

P. Lunitz, Brandenburg a. H.—O. Helmbach, "Die Cholera." (1*M.*)

G. Thieme, Leipsic.—G. Platner, "Die Karyokinese bei den Lepidopteren als Grundlage für die Theorie d. Zelltheilung." (4*M.*) —— H. Seiler, "Leitfaden d. Krankenpflege, zunächst für Diakonissinnen." (2*M.*)

Urban & Schwarzenberg, Vienna.—R. Arndt and A. Dohn, "Der Verlauf der Psychosen." (4*M.*) —— M. Kaposi, "Pathologie u. Therapie der Hautkrankheiten." 3d ed., 2d part. (11*M.*) —— W. F. Löbisch, "Ueber d. neueren Behandlungsweisen d. Fettleibigkeit." (1*M.* 50.)

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BOOKS AND PAMPHLETS RECEIVED.

A Contribution to the Study of the Operation of Shortening the Round Ligaments—Alexander's Operation. By Thomas A. Ashby, M. D., Professor of Gynæcology in the Baltimore Polyclinic and Post-graduate Medical School, etc. [Reprinted from the "Maryland Medical Journal."]

The Doctorate Address delivered at the Semi-centennial Anniversary of the University of Louisville, Medical Department, March 2, 1887.

By David W. Yandell, M. D., Professor of Surgery and Clinical Surgery in the University.

On the Pathology and Treatment of Spermatorrhœa. By J. L. Milton, Senior Surgeon to St. John's Hospital for Diseases of the Skin. Enlarged and Reprinted from the Original Papers published in the "Lancet" for 1854, and the "Medical Circular" for 1858. Twelfth Edition. London: Henry Renshaw, 1887. Pp. viii–213.

Oxygen in Therapeutics. A Treatise explaining the Apparatus, the Material, and the Processes used in the Preparation of Oxygen and other Gases with which it may be combined; also its Administration and Effects, illustrated by Clinical Experience of the Author and others. By C. E. Ehinger, M. D. Chicago: W. A. Chatterton & Co., 1887. Pp. 157.

Hand-book of Pharmacy and Therapeutics. Compiled by James E. Lilly.

The Past, Present, and Future Treatment of Homœopathy, Eclecticism, and Kindred Delusions which may hereafter arise in the Medical Profession, as viewed from the Standpoints of the History of Medicine and of Personal Experience. By Henry I. Bowditch, A. M., M. D., Harv., formerly Professor of Clinical Medicine in the Harvard Medical School, etc. An Address delivered June 10, 1886, before the Rhode Island Medical Society on the occasion of the Seventy-fifth Anniversary of the Foundation of the Society. [Reprinted from the "Transactions" of the Society.] Boston: Cupples, Upham, & Co., 1887.

Reports on the Progress of Medicine.

OTOLOGY.

By CHARLES STEDMAN BULL, M. D.

The Value of Rinne's Experiment in the Diagnosis of Diseases of the Ear.—Schwabach ("Arch. of Otol.," xv, 2, 3) thinks that Rinné's experiment should be made with two tuning-forks of different pitch, for the experiment may on the same ear result positively with the one, and negatively with the other. In his experiments the majority of cases giving a positive result of Rinné's experiment proved to be indubitable affections of the sound-conducting apparatus; only in a few could it be assumed that the acoustic nerve was implicated. With regard to the cases showing no objectively demonstrable alteration in the sound-conducting apparatus, and which, in view of all the other available diagnostic data, had to be classed as affections of the sound-perceiving apparatus, Schwabach's investigations showed that Rinné's experiment resulted positively in 91·3 per cent., negatively in 8·7 per cent. of the cases. Accordingly, he thinks he would be justified in assuming an affection of the nervous apparatus when Rinné's experiment gives a positive result, in the absence of objective alterations in the sound-conducting apparatus. If we compare the three methods discussed in the paper—(1) Rinné's experiment alone, (2) the same as restricted by Lucae, (3) the examinations of partially deaf persons as to the duration of perception for tuning-forks vibrating on the vertex compared with normally hearing persons, with reference to their value in the diagnosis of diseases of the ear—we find: 1. None of the three methods alone suffices to answer the question whether in a concrete case we are dealing with an affection of the sound-conducting or perceiving apparatus. 2. Rinné's experiment alone gives the least guiding-points for the diagnosis when objectively demonstrable alterations in the sound-conducting apparatus are present. 3. The same experiment may be of use for the diagnosis of an affection of the sound-perceiving apparatus in the absence of objective conditions, if it gives a positive result. 4. Rinné's experiment as restricted by Lucae may give valuable data for the differential diagnosis between affections of the sound-conducting and perceiving apparatus in a great number of cases, but can not be regarded as a reliable test for all cases. 5. The test of the duration of perception for a tuning-fork vibrating on the vertex must be looked upon as a valuable auxiliary in the differential diagnosis between affections of the sound-conducting and sound-perceiving apparatus. 6. This mode of examination may aid in settling a doubtful diagnosis, especially when objectively demonstrable alterations are present in the sound-conducting apparatus, when Rinné's experiment at the same time gives a negative result, and the duration of perception for a tuning-fork vibrating on the vertex is considerably prolonged. 7. The examination of the duration of perception for the tuning-fork vibrating on the vertex, as compared with the other customary methods of testing the bone conduction, gives diagnostically valuable results in a greater number of cases than the latter.

Abscess of the Brain after Otorrhœa cured by Operation.—Truckenbrod's patient (*ibid.*) was a man, aged twenty-eight, who had suffered from purulent otitis media for six months. When admitted into the hospital, January 11, 1885, he complained of a chill, pain at the vertex, partial obliteration of the meatus, and some discharge of pus. On January 14th the mastoid was opened by chiseling, and pus escaped from the bottom. The temperature continued elevated, and the external wound was enlarged on January 28th. The next day the right half of the face became paralyzed, and on January 30th there was marked aphasia. It was then determined to open the cranial cavity, and the former incision was extended upward and backward. After detaching the galea and the periosteum, there appeared upward and backward from the external meatus a mass of pus, and, on removing a thin piece of bone, the dura was seen covered with granulations. Pressure revealed fluctuation, but an exploratory puncture showed only a trace of fluid, though caseous pus and air came away continually from between the dura and the bone. The incision was extended downward and backward, and again large quantities of pus were discharged. After slitting the dura, about a cupful of pus escaped. The abscess was about the size of a small orange. Between January 31st and June 1st the abscess was several times punctured and drained, but on June 7th the patient was discharged cured. The abscess was probably situated in the region of the second left temporal convolution. The diagnosis was based, first, upon the œdema confined to this region; secondly, on the painfulness which existed there; thirdly, on the paralysis of the right facial nerve, and upon the peculiar impediment of speech.

The Differential Diagnosis of Disease of the Sound-conducting and of the Sound-perceiving Apparatus.—Bartsch (*ibid.*) recommends an experiment which seems to him more serviceable than Gellé's experiment in the differential diagnosis above mentioned. The experiment is based on the attempted exclusion from the auditory function of the sound-conducting portion, by rarefaction of the air in the external auditory canal. The air being exhausted from the meatus by means of a rubber tube hermetically inserted into it, the drum-head will be rendered to some extent incapable, at least during great negative pressure, of propagating to the labyrinth the vibrations which impinge upon it. Under great pressure thus exerted upon one's self, one feels how the drum-head is extended outward, and, since with such great tension of the drum-head the malleus is also withdrawn from the incudal joint, the transmission of the sound-waves by the drum-head and the ossicles will be thus greatly hindered. In that case, therefore, only those vibrations will be conducted to the labyrinth which are directly propagated by the bones which do not touch the drum-head—*i. e.*, the cranial vibrations. The question then will be, How intensely and how long are these vibrations perceived? Are they of the same intensity, are they perceived for the same length of time as when the tuning-fork vibrates on the head without the air being exhausted from the meatus? In that event, we must assume that the sound-conducting apparatus performs its function badly. Or else, if they are much fainter, or are heard for a much shorter time than before, the sound-conducting apparatus is healthy. The experiment proves that direct bone-conduction really produces auditory sensations.

Cyst-formations in the Auricle.—Hartmann (*ibid.*) thinks that many cases in literature have been described as hæmatomata which should have been described as cysts. In two cases of his own the tumor had developed slowly without showing any signs of inflammation. One had existed three weeks at the time of the incision, the other fourteen days. In the first case, the swelling reached its maximum in about eight days; in the second, there was a steady increase in size up to the time of incision. In both, the contents were a clear fluid, without any discoloration from blood or any admixture of flocculi. He regards these cases as of primary cyst-formation. It is only in organs richly supplied with lymphatics that blood poured out in small quantities can be absorbed in a short time. In other organs the process takes place as follows: First the serum, then the other constituents of the blood are absorbed. The solid constituents are meanwhile converted into an albuminous fatty detritus. The absorption may be favored by the exudation of a serous fluid, which finally replaces the extravasation, a capsule of connective tissue having developed. These metamorphoses require weeks and months. A part of the blood-pigment generally remains as hæmatoidin. In many of the cases reported, the increase in the size of the swelling continued up to the time of the incision; therefore some of the blood must have been effused a short time previously, if at all. But the contents are found to be a clear serous fluid, and hence an extravasation of blood is to be regarded as out of the question. If any such had existed, we should certainly have found a thick, dark fluid or pigmented coagula. If the characteristic points of difference between othæmatoma and cyst are contrasted, all doubt as to the identity of the two diseases will be dispelled. As to the relation between cyst and perichondritis of the auricle, we know that inflammatory phenomena are altogether absent in the case of cysts, while perichondritis is accompanied by redness, heat, and severe pain. As regards treatment, massage brings about a cure in about the same length of time as an incision does, but requires much more attention. After incision, the discharge should not be hindered. Effusions of blood into primary cysts readily occur, and hence we find it frequently stated that the contents of such cysts are a bloody serum. But there is no basis for the inference that the blood effusion was first in the order of events. Hartmann thinks that the processes described by Fischer, Meyer, and others are not only the predisposing cause of hæmatoma, but are also to be regarded as a preliminary stage of simple cyst-formation. For the development of a cyst, all that is necessary is a more abundant secretion of the fluid; for hæmatoma, the traumatic influence causing injury to vessels.

Results of the Examination of Six Petrous Bones from Three Deaf-Mutes.—Moos and Steinbrügge give the results of their examinations of the petrous bones of three deaf-mutes who died of phthisis, but of whom nothing further was known (*ibid.*). In the petrous bones of the *first case* there were hyperostotic contraction of the external meatus, diminution in size of the tympanic cavity and antrum, osseous obliteration of the mastoid cells, and increased thickness of the promontory. The destruction of the bone had been preceded by proliferation of the periosteum. The connective-tissue adhesions in the left scala tympani were also the result of periostitis. All the symptoms in this case—the red blood-corpuscles in the enlarged medullary spaces, the cells containing blood-corpuscles, the pigment, the extravasations of blood in the region of the facial nerve, the snaring off of bone on the promontory, and the formation of cavities in the pyramid—bear the greatest resemblance to the effects of tertiary syphilis. The alterations in the sound-conducting apparatus must have originated after birth, and if there was no congenital anomaly in the nerve-center, the deaf-mutism was probably acquired. In the *second* case the alterations were both congenital and acquired. The former are referable to a fœtal disease of the bone, as is shown by the destruction in the bony envelope of the cochlea, absence of the finer structures of the ductus cochlearis, and the almost entire absence of the bony and membranous vestibule, ampulla, and semicircular canals. The chief nerve-fibers and the ganglionic region were normal, which is an anatomical proof that auditory nerve-atrophy is rare so long as the course of the centripetal nervous and the nervous center are normal. In the *third* case, it is doubtful whether the patient was a deaf-mute or a deaf person. The exudation in the sulcus spiralis, which pressed upon the nerve-fibers passing near the inner pillars of Corti, must have produced extreme deafness, but this evidently belonged to a period of life after birth.

The Pressure produced in the Middle Ear by Inflations of Air through the Tube.—Barth (*ibid.*) concludes from his experiments that the pressure in the middle ear, when the uniformly acting "water-stream inflation" is used, will be exactly the same whether the ear is closed on the outside by an intact drum-head, or the external meatus is hermetically closed by a manometer in cases where the drum-membrane is more or less perforated. The permeability of the tube is the same whether the drum-head is perforated or intact. That the full pressure produced by the compression apparatus does not act upon the middle ear is shown by the fact that during the use of the dry nasal douche a large part of the air escapes into the pharynx, mouth, and even stomach. The strongest pressure in the middle ear is shown by the manometer when the simple nasal douche is employed during the act of swallowing, according to Politzer's method.

Purulent Otitis after Confinement; Phlebitis of the Sinuses; Pyæmia.—Bonnet ("Ann. des mal. de l'oreille et du larynx," Sept., 1886) reports an interesting case, occurring in a woman aged twenty-four. Labor pains began April 29, 1886, and continued for several days, and it was not until May 9th that the child was extracted by forceps, and died the same day. Fifteen days later the mother left the hospital apparently well, and remained so till June 12th, when she had a pronounced chill, followed by profuse perspiration and violent headache, and later by pain in the left ear. The next day another violent chill, followed by repeated epistaxis and increase of the pain in the ear. On the 18th she re-entered the hospital, with great pain in the head and over the mastoid, and a purulent discharge from the left ear. On June 21st the mastoid region was swollen, red, and fluctuating. No trouble with uterus or vagina. Incision over the mastoid gave vent to free hæmorrhage, but no pus. On the next day the pain had disappeared, but she had a chill, and this was repeated for a number days, followed by profuse perspiration and an elevation of temperature. Diarrhœa set in, and the patient complained of great thirst. The discharge from the ear continued. The urine contained considerable albumin. The chills increased in frequency and duration, and the patient finally died on the fifty-sixth day after confinement. The autopsy showed numerous ecchymoses and infarcti in the lungs, and numerous miliary abscesses. The right cerebral hemisphere was congested, the left pale. No meningeal or cortical lesion apparent. In the left lobe of the cerebellum, near the lateral sinus, there was a grayish patch on the surface as large as a franc-piece. Upon the internal surface of the dura, on a level with the left lateral sinus, was a spot of yellowish-green color, as large as a two-franc piece, which extended to the top of the petrous bone. When this was lifted up, the lateral sinus was found filled with pus, which extended into the internal jugular and filled it completely. The other sinuses contained dark liquid blood and fibrinous clots. The mastoid was sclerosed, but without much destruction of the air-cells, and contained no pus. The middle ear and external auditory canal were filled with pus.

Rupture of the Internal Carotid Artery subsequent to Necrosis of the Temporal Bone.—Sutphen ("Arch. of Otol.," xv, 4) reports in detail an interesting case of this kind in a man aged twenty-five. When a child he received a blow on the right ear, resulting in a discharge which had continued more or less constantly until the present time. Four years ago he was treated for an abscess beneath the right ear. Recently the swelling returned in the same place. The walls of the auditory canal were found swollen, the cavity of drum was partly filled with granulations, and carious bone was detected. An opening made into the abscess directly beneath the auricle established communication with the middle ear, as shown by syringing. Nearly fourteen months later there was profuse otorrhœa, the external canal was full of granulations, and the walls of the canal and tympanic cavity were carious. Immediately below the external meatus was a fistulous opening, through which pus escaped. A large probe could be passed inward for an inch and reached roughened bone. Water injected into the meatus escaped through the mouth and also through the fistula, and water injected into the fistula escaped through the meatus and into the pharynx. There was no optic neuritis, nor facial paralysis, nor hemiplegia at this time. Three months later, the right side of the face became paralyzed, and the left side of the body. He was admitted to St. Michael's Hospital complaining of right hemicrania, vertigo, and nausea. The fistula beneath the auricle had closed. There was no optic neuritis. The man refused to have any operation done for the removal of dead bone. In a few days the discharge increased, and the headache and nausea disappeared. Within two weeks he was able to walk about the ward, and shortly after left the hospital, the hemiplegia having entirely disappeared, though the facial palsy remained unchanged. On August 30th there was a return of the headache and vomiting. On September 10th there was a profuse hæmorrhage from the ear. On September 14th there were four hæmorrhages. On September 15th he was readmitted into the hospital, very weak from two more severe hæmorrhages, which had occurred within the preceding twenty-four hours. The man died on September 19th, after a profuse hæmorrhage, in intense agony and delirium. At the autopsy, the right temporal bone in the region of the middle ear had been changed into one large carious cavity, containing a sequestrum, oblong in shape, one inch long, and seven lines in breadth and thickness. On removing the sequestrum, an opening into the internal carotid artery was found, the walls of which were softened. Corresponding to the internal meatus was an opening from the carious cavity into an abscess in the cerebellum opposite. Above and in front of this was a mass of cicatricial tissue occupying the entire thickness of the gray matter, no doubt the remains of an abscess which had healed. On the upper surface of the cerebellum was a large discoloration showing evidences of a former localized meningitis.

On Bone-conduction of Sound and the Value of Rinne's Test in the Diagnosis of Disease of the Nervous Structures of the Ear.—Barr (*ibid.*) has examined one hundred and seventy diseased ears in one hundred patients, with the special object of discovering the real value of bone-conduction of sound as a means of diagnosis. These diseased ears consisted of the ordinary classes of cases which make up the bulk of practice, and were divided into four groups as follows: 1. Exudative diseases of the middle ear. 2. Dry diseases of the middle ear. 3. Well-marked affections of the labyrinth or nerve structures. 4. Ceruminous or inflammatory obstructions in the external auditory canal. The proof of the almost invariable preponderance of bone-conduction over air-conduction in cases of chronic suppurative inflammation of the middle ear is the most remarkable result of this inquiry, and has been confirmed by further and more recent observations. Increased bone-conduction, whether attested by Rinné's method, by Weber's method, or by the watch on the temple, does not necessarily and invariably point to disease of the conducting structures only. On the other hand, defective bone-conduction does not conclusively prove disease of the nervous structures alone. The striking fact as to the almost invariable preponderance of bone-conduction by Rinné's test in suppurative diseases of the middle ear proves how seldom the labyrinthine structures are involved in these cases, presenting a remarkable contrast to chronic non-suppurative catarrh, and even to ceruminous collections.

Wound of both Ears by a Shot from a Revolver; Extraction of the Bullets; Consecutive Ocular and Mental Symptoms.—Rollin and Terrier ("Ann. des mal. de l'oreille et du larynx," Dec., 1886) report an interesting case occurring in a man, aged twenty-seven, who had attempted to commit suicide by shooting himself in each ear with a revolver. When admitted into the hospital the blood was flowing freely from both ears, and the patient was semi-comatose. The next day the temperature was 39° C., but one week later it had fallen to 37° C., and the patient gradually regained consciousness. The deafness was total in both ears, and there was complete left facial paralysis. One month after the injury an abscess appeared above the masseter on the right side, in front of the auditory canal, and gave exit to a large quantity of pus. A few days later the abscess closed, and exploration of the auditory canal revealed a metallic body at the bottom. Two weeks later the left eye became injected and painful, and two weeks later still the patient began to be very violent, throwing himself about in bed, and emitting loud cries. Eighty days after the injury an incision was made along the posterior auricular furrow, and the auricle dissected up freely and turned forward. The auditory canal was then incised, and, after considerable difficulty, the bullet was removed. The canal was then washed out, the auricle replaced and sutured, a drainage-tube introduced, and carbolized dressings employed. The wound healed in a few days, but the patient grew perceptibly feebler, and the cornea of the left eye became entirely opaque. One month later a similar attempt was made to extract the bullet from the other ear, and, after a more serious difficulty, it was finally found at a depth of five centimetres, and removed with a strong forceps. Some small splinters were subsequently extracted, and this was followed by a profuse hæmorrhage. The canal was at once plugged with iodoform gauze, and the left eyelids were then closed by sutures to protect the eye and, if possible, retard the trophic lesions of the cornea. The wounds again healed with rapidity and without any complication, and from this time a perceptible amelioration in the mental condition of the patient became manifest. The left eye was subsequently entirely lost, and slight purulent discharge continued from the left ear. The right ear was entirely healed. The deafness remained absolute.

Serious Epistaxis; Plugging of the Posterior Nares; Bilateral Purulent Otitis.—Gellé ("Rev. mens. de laryngologie et d'otol.," Dec., 1886) describes the injurious effect on the ears of plugging the posterior nares, as follows: The blood retained in the nasal fossæ is decomposed; it penetrates by the act of deglutition into the tympanic cavities, where it sets up a septic inflammation which inevitably leads to disastrous suppuration. The plug itself, if too tight or too large, irritates the already inflamed mucous membrane, and increases the chance of otitis. Bilateral aural inflammation of the most serious nature may occur if the plug is removed at the end of forty-eight hours. Gellé reports a case of severe epistaxis, occurring in a man, aged fifty-five, after sudden and severe emotional trouble. The loss of blood was large, and plugging of the posterior nares was resorted to by means of Belloc's sound before the bleeding could be checked. Three days later the plug from the anterior nares was removed first, and then that from the posterior nares. Five days after the introduction of the plug, and two days after its removal, tinnitus began in both ears, then a burning sensation, a sense of fullness, violent pain, insomnia, high fever, and a sudden discharge of bloody pus, considerable in amount, after which a gradual subsidence of all the symptoms. An examination showed a perforation of both drum-membranes in the supero-posterior region, and a general swelling of the walls of the auditory canals.

Miscellany.

Health Reports from Abroad.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received from foreign countries during the week ending March 24th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending March 5th corresponded to an annual death rate of 21·3 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest death rate was recorded in Bolton, viz., 11·6, and the highest in Manchester, viz., 31·2 in a thousand.

London.—One thousand six hundred and thirty-five deaths were registered during the week ending March 5th, including 55 from measles, 9 from scarlet fever, 19 from diphtheria, 29 from whooping-cough, 5 from enteric fever, and 11 from diarrhœa and dysentery. There were 459 deaths from diseases of the respiratory organs. Different forms of violence caused 62 deaths, and 8 suicides were registered. The deaths from all causes corresponded to an annual rate of 20·2 in a thousand. In greater London, 2,015 deaths were registered, corresponding to an annual death rate of 19·4 in a thousand of the population. In the outer ring, 23 deaths from measles were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending March 5th, in the sixteen principal town districts of Ireland, was 25·2 in a thousand of population. The lowest rate was recorded in Kilkenny, viz., 8·5, and the highest in Sligo, viz., 43·3.

Dublin.—One hundred and ninety deaths were registered during the week ending March 5th, including 7 from scarlet fever, 1 from whooping-cough, 4 from enteric fever, 1 from typhus fever, 1 from measles, and 1 from diarrhœa. Diseases of the respiratory organs caused 62 deaths, and 1 suicide was registered. In twenty-nine instances the cause of death was uncertified, there having been no medical attendant during the last illness. The deaths from all causes corresponded to an annual rate of 28·1 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending March 5th was 23·6 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Dundee, viz., 17·4, and the highest in Aberdeen, viz., 32·4 in a thousand. The aggregate number of deaths registered from all causes was 589, including 27 from measles, 19 from scarlet fever, 5 from diphtheria, and 32 from whooping-cough.

Germany.—The deaths registered in fifty-one cities of Germany having an aggregate population of 6,692,237, during the week ending February 26th, corresponded to an annual death rate of 26·2 in a thousand. The lowest rate was recorded in München-Gladbach, viz., 16·8, and the highest in Münster, viz., 40·3.

Calcutta.—Four hundred and seventy-six deaths were registered during the two weeks ending February 5th, including 19 from cholera, 141 from fevers, 95 from bowel complaints, and 43 from tetanus.

Rio Janeiro.—Four hundred and seventy-seven deaths were registered during the two weeks ending February 21st, including 9 from yellow fever, 36 from small-pox, and 6 from enteric fever.

Havana.—Seven cases of yellow fever and 6 cases of small-pox were registered during the week ending March 10th, but no deaths from those diseases. During the week ending March 17th there were 2 deaths registered from yellow fever and 1 from small-pox.

Buenos Ayres.—The United States consul, in his dispatch dated February 5, 1887, relative to cholera in the Argentine Republic, states that "the disease seems at last to have quite run its course. Day by day, in all the centers of population in the country, the number of new cases is becoming less, and there is now a feeling of relief that it will only be a short time before the ports of the world will once more be freely opened to clearances from Buenos Ayres. Commerce and general trade are all feeling the impulse of the improved condition of public health." He incloses a cutting from the Buenos Ayres "Standard" of February 5th, in which it is stated that "the public health is no longer a subject of great anxiety, although cholera still lingers in this city and in many other parts of the Republic. The disease is wasting away gradually, and has lost much of its epidemical force. It has disappeared from Rosario, Cordoba, and Mendoza, is gradually wearing away in Tucuman and northern provinces, and continues more or less stationary in this city and in Montevideo. Chili has also been invaded by the epidemic; the disease is raging with terrible effect in the Chilian departments of Aconcagua, Andes, and Quillota. The daily mortality in Santiago, the capital, has been, and continues to be, heavy. It is noteworthy that both here and in Chili the epidemic has attacked the poor class only. There is no doubt that cholera is dying out rapidly in this city, but the disease is not abandoning the country as fast as we might wish. . . . Last month there were 596 cases of cholera in this city, of which number 336 were fatal."

Catania.—The United States consul, in his dispatch dated February 28th, in confirmation of his dispatch of the same date, states that the 15 cases reported were scattered throughout the city, not being confined to any particular locality; that there was not more than 1 case in a house, with one exception, in which there were 2; that the physicians reported the disease to be without epidemic features. The prefect had already ordered that sanitary measures be at once taken, and that all be done that possibly could be to stay the disease. The city is in bad condition to withstand such a scourge. Many of the streets are without drainage, the side streets and alleys are exceedingly filthy, the poorer classes are crowded together in poorly ventilated and comfortless rooms. As the heat of summer sets in, unless the dire malady is stayed, the sacrifice to death will be fearful. The people are greatly alarmed; many of them are flying to the slopes of Etna.

Paris.—One thousand one hundred and ninety deaths were registered during the week ending March 5th, including 46 from measles, 2 from small-pox, 13 from whooping-cough, 41 from enteric fever, 3 from scarlet fever, and 44 from diphtheria.

Havre.—Seventy-five deaths were registered during the week ending March 5th, including 1 from small-pox and 1 from enteric fever. Two suicides were registered.

Marseilles.—Nine hundred and seventy deaths were registered during the month of February, including 7 from whooping-cough, 12 from small-pox, 12 from enteric fever, 1 from scarlet fever, 42 from diphtheria, and 7 from measles.

Reims.—Fifty-six deaths were registered during the week ending March 5th, including 1 from small-pox, 4 from whooping-cough, and 3 from diphtheria.

Nice.—One hundred and forty-nine deaths were registered during the two weeks ending January 31st, including 3 from small-pox and 1 from enteric fever.

Bordeaux.—One hundred and twenty-two deaths were registered during the week ending March 5th, including 3 from enteric fever.

Rome.—One hundred and fifty-nine deaths were registered during the week ending January 22d, including 5 from small-pox and 2 from diphtheria.

Leghorn.—Sixty-nine deaths were registered during the week ending March 6th, including 1 from enteric fever and 1 from scarlet fever

Kingston, Jamaica.—One hundred and twenty-three deaths were registered during the month of February, 1887, including 22 from small-pox and 1 from diphtheria.

Bristol.—Eighty deaths were registered during the week ending March 5th, including 2 from scarlet fever and 2 from diphtheria.

Trieste.—One hundred and seventeen deaths were registered during the week ending February 19th, including 4 from diphtheria.

Munich.—One hundred and twenty-seven deaths were registered during the week ending February 26th, including 1 from enteric fever, 1 from scarlet fever, and 4 from diphtheria.

Amsterdam.—One hundred and ninety-nine deaths were registered during the week ending February 26th, including 1 from typhus fever, 1 from enteric fever, and 4 from diphtheria.

Bremen.—Fifty-four deaths were registered during the week ending February 26th, including 2 from diphtheria.

Stuttgart.—Fifty-four deaths were registered during the week ending February 26th, including 3 from diphtheria.

Leipsic.—Seventy-one deaths were registered during the week ending March 5th, including 1 from scarlet fever, 5 from diphtheria, and 2 from enteric fever. Three suicides were registered.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Calcutta	January 29.	433,219	236	9	....	....	....	....	....	....
Calcutta	February 5.	433,219	240	10	....	....	....	....	....	....
Rio Janeiro	February 14.	275,000	229	..	4	22	....	2	....	....
Rio Janeiro	February 21.	275,000	248	..	5	14	....	4	....	....
Paris	March 5.	2,260,045	1,190	..	....	2	....	41	3	44
Havre	March 5.	112,074	75	..	....	1	....	1	....	....
Reims	March 5.	97,903	56	..	....	1	....	....	....	3
Bordeaux	March 5.	240,582	122	..	....	....	....	3	....	....
Rome	January 22.	364,511	159	..	....	5	....	....	....	2
Leghorn	March 6.	101,172	69	..	....	....	....	1	1	....
Bristol	March 5.	223,695	80	..	....	....	....	....	2	2
Trieste	February 19.	150,157	117	..	....	....	....	....	....	4
Munich	February 26.	269,000	127	..	....	....	....	1	1	4
Amsterdam	February 26.	370,969	199	..	....	....	1	1	....	4
Bremen	February 26.	119,000	54	..	....	....	....	....	....	2
Stuttgart	February 26.	125,510	54	..	....	....	....	....	....	3
Stuttgart	March 5.	125,510	44	..	....	....	....	....	....	..
Leipsic	March 5.	170,000	71	..	....	....	....	2	1	5
Mannheim	February 19.	65,000	18	..	....	....	....	....	....	....
Mayence	February 26.	65,701	31	..	....	....	....	....	....	....
Laguayra	March 5.	7,428	6	..	....	....	....	....	....	....
Cape Haytien	March 5.	10,000	5	..	....	....	....	....	....	....
Gibraltar	February 27.	23,631	10	..	....	....	....	....	....	....
Curaçoa	March 5.	25,000	5	..	....	....	....	....	....	....
Toronto	March 12.	120,000	20	.	....	....	....	....	....	....

THERAPEUTICAL NOTES.

Amyl Nitrite as a Uterine Sedative.—This substance has, as is well known, been used with success as a palliative in cases of dysmenorrhœa. In a letter to the "Lancet," Mr. F. W. Kendle recommends it not only for that purpose, but also to allay the nausea of pregnancy and to check after-pains. For the latter purpose, he directs two four-grain capsules to be broken into a smelling-bottle, the patient to take two or three deep inhalations when she feels a pain coming on.

The Subcutaneous Administration of Eucalyptol.—M. Jacquemaire, a Lyons pharmacist ("Lyon méd.," Mar. 6, 1887), recommends the following formulæ:

(1)	Eucalyptol	1 part;
	Oil of sweet almonds	4 or 3 parts.
(2)	Eucalyptol	1 part;
	Virgin olive-oil	4 or 2 parts.

Original Communications.

ON THE DETECTING AND LOCATING OF METALLIC MASSES IN THE HUMAN BODY BY MEANS OF THE INDUCTION BALANCE AND THE TELEPHONIC PROBE.

By JOHN HARVEY GIRDNER, A. B., M. D.

My purpose in this paper is to describe the induction balance and the telephonic probe, two apparatuses which are to aid the surgeon in determining, in a painless manner, the precise spot at which a leaden bullet is located, or any other metallic substance which may have found a lodgment in the tissues or cavities of the human body. The principle of induction in electricity is so well understood that any account of it in an article of this kind would be out of place; therefore I shall confine my remarks to the application of it to purposes of surgical diagnosis. In the summer of 1881, during the anxious days of the last illness of the late President Garfield, and when the surgeons in attendance had failed by every means at their command to locate the assassin's bullet in his body, it occurred to Professor Alexander Graham Bell, of Washington, D. C., the well-known electrician and inventor, that, with perfectly balanced induction coils, having a telephone receiver in the secondary circuit, he might be able to determine the location of the bullet by an audible sound which would be produced in the telephone when the balance was disturbed by the exploring coils being brought to a point on the surface of the body directly opposite to the bullet. Strangely enough, this same idea of using the induction balance occurred to Mr. George M. Hopkins, of Brooklyn, at about the same time, and independently of Professor Bell. Professor Bell at once constructed an apparatus and took it to the White House, and made the experiment on the person of the President, but failed to find the bullet, owing to the crude character of the apparatus thus hurriedly constructed, together with lack of experience in its use, and also to the disturbing influence on the balance of a steel mattress under the hair one on which the President lay, and the presence of which was unknown to the experimenters at the time.

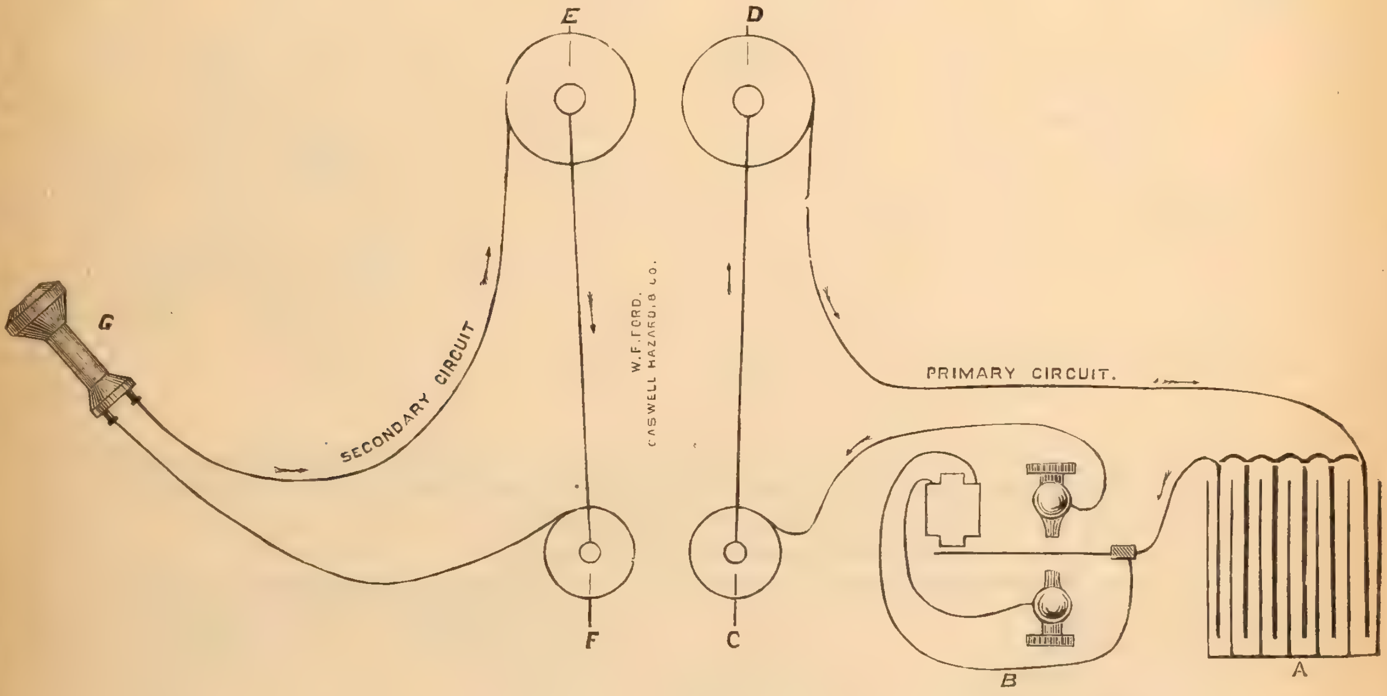

Fig. 1.

No other attempt was made to find the bullet in the President's case, as Professor Bell was unavoidably kept from further experiment at that time; hence the location of the bullet remained unknown until the autopsy at Elberon revealed it.

It would, doubtless, be of interest to follow the subsequent history of the development of this apparatus to its present state, but I shall content myself by saying that Professor Bell has now placed at our disposal a highly practical apparatus, which, used in connection with his other invention—which I have ventured to name the *telephonic probe*, and will describe further on—gives us a nearly perfect and almost painless means of determining the location of metallic masses in any of the tissues or cavities of the human body.

Fig. 1 shows the essential parts of the induction balance. At A is an ordinary bichromate-of-potassium battery of six cells; a greater or less number of cells can be used, but the best results will, I think, be obtained when six freshly filled cells are used. At B is shown a rheotome; as an interrupted and not a continuous current is required, five or six hundred interruptions per second should be had. At C is a small coil of about No. 25 copper wire, thoroughly insulated. This coil is about one inch in diameter by half an inch in thickness, and the spool on which the wire is wrapped is of hard rubber. At D is another coil of fine insulated copper wire, about three inches and a half in diameter by three quarters of an inch thick, and the spool on which the wire is wrapped is of card-board. These two coils, together with the rheotome and battery, it will be seen, are connected by wires, forming a complete circuit, marked *primary circuit.* At E and F are coils precisely similar to those shown at D and C, and at G is a telephone receiver. The coils E and F, with the telephone receiver, it will be seen, are connected by wires, and form a complete circuit, marked *secondary circuit.* It will also be observed that the course of the currents in the two circuits is in opposite directions, as indicated by the arrow-heads.

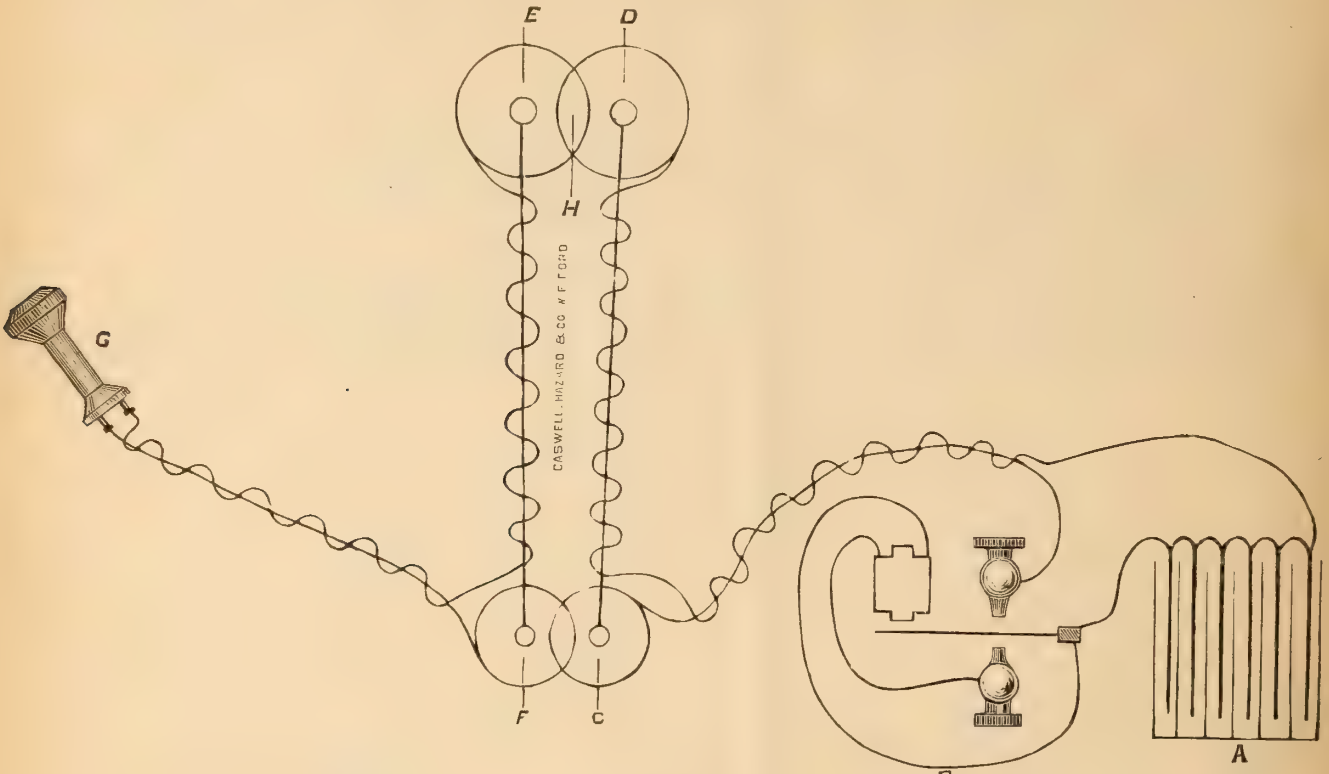

Fig. 2.

Fig. 2 represents the same parts as Fig. 1, except that in the latter cut the apparatus is shown in position for work—that is, the coils E and F of the secondary circuit are laid on the coils D and C of the primary circuit, so that when the current is passed through the primary circuit a current is established in the secondary circuit by induction, and there is a loud musical sound produced in the telephone receiver at G. Now, if the coil F be moved about on the surface of the coil C, a position will be found for it in which there is a perfect balance established between the two currents, and consequent silence in the telephone.

With this balance established, if any metallic substance be brought near to the point marked H, which is the center of the *induction area,* the balance is disturbed and the telephone gives forth a high-pitched musical sound which increases or diminishes as the metal approaches or recedes from the point H. Now, it is evident that to make this apparatus available as a means of surgical diagnosis we must arrange to bring the point H in the neighborhood of the metallic mass, and thus have a means of exploring the whole surface of the body in which we suspect a bullet to be lodged. In order to do this, the two coils, E and D, which we will call the exploring coils, are let into a turned-out space in a block of wood and held in position by melted paraffin being poured over them and then allowed to harden, as in Fig. 3, which shows the flat surface of the block with the exploring coils A and B in position, and Fig. 4, which shows a cross-section of the same.

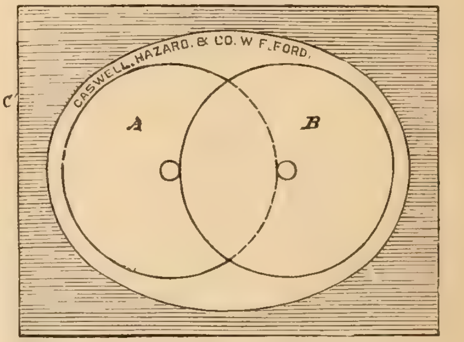

Fig. 3.

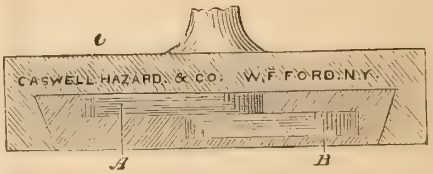

Fig. 4.

After the coils have been secured in their proper places by means of the paraffine, a piece of silk velvet is pasted over them to give a soft surface for contact with the skin in explorations of the body. A handle is next glued on the upper surface, and the wires from the coils are made to pass out along grooves in its upper and lower surfaces, and it is thus called the explorer. (See Fig. 5.)

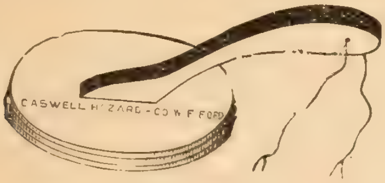

Fig. 5.

The coils F and C, Fig. 2, are called the adjusting coils, and are also attached to a block of wood and arranged with a delicate screw adjustment for moving one upon the other, thus enabling us to obtain a perfect balance between the two circuits and perfect silence in the telephone. Fig. 6 shows this screw adjustment. To use the apparatus, place the patient on a table with the parts exposed in which the bullet is supposed to be located, place the table in the middle of the room, and have *both patient and table entirely free from any metallic substance;* or, if this is not possible, as nails are used in most tables, be certain you know where each nail is located. Remove all metal from the operator so far as is possible, and know where each piece which remains is located, so that allowance can be made if it exerts a disturbing influence on the balance. The patient's teeth should also be examined for fillings, if you propose to search for a bullet in the neighborhood of the cheek. All these precautions being observed, you are ready to begin the exploration. Place the telephone to your ear at the same time that an assistant holds the explorer at arm's length about twelve inches from the patient's body. If now you hear a noise in the telephone, it indicates that the two circuits are out of balance, and you must turn the screw in the adjuster (Fig. 6), first one way and then the other, until you find the noise in the telephone growing weaker, and finally it disappears entirely; then there is a perfect balance. Now take the explorer from the assistant and, holding it at arm's length, pass it slowly over the patient's body, *without pressure,* allowing the velvet to barely touch the skin, holding the telephone to the ear the while; when the center of the explorer (Fig. 5), which is the center of the area of induction, reaches a point on the skin directly opposite the bullet in the body, the telephone announces it by a musical sound, and, as you approach or recede from this point on the skin with the center of the explorer, the sound in the telephone increases or diminishes. This point on the skin should be marked, and we know certainly that if a needle is passed directly in at this point at right angles to the skin, it will come in contact with the missile.

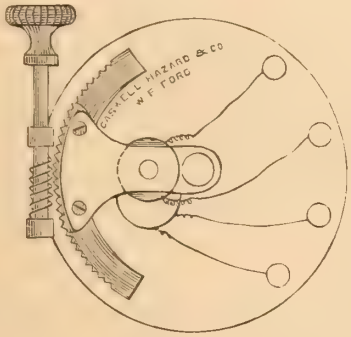

Fig. 6.

We come now to the second apparatus mentioned—viz., the *telephonic probe,* another of Professor Bell's inventions. It consists of a plate of polished steel six inches long by two inches wide and half an inch thick, shown at B, Fig. 7. In one end of this plate is a hole from which a small copper insulated wire leads to a telephone receiver, C. At A is a finely tempered steel needle of suitable length, which may be for convenience graduated in inches and parts of an inch; from the eye of this needle a second wire leads to the other pole of the telephone receiver, C. The manner of using this apparatus is shown in Fig. 8. The point on the surface opposite the bullet having been determined by the induction balance, as described above and shown at A, Fig. 8, the operator moistens the skin with vinegar at a convenient point, as at B, and lays the steel plate on this moistened surface, and, while an assistant presses it firmly against the skin, he places the telephone receiver to his ear, and with the other hand thrusts the steel needle into the tissues at right angles to the surface. The body now acts as a battery, with the steel plate and the needle forming the two

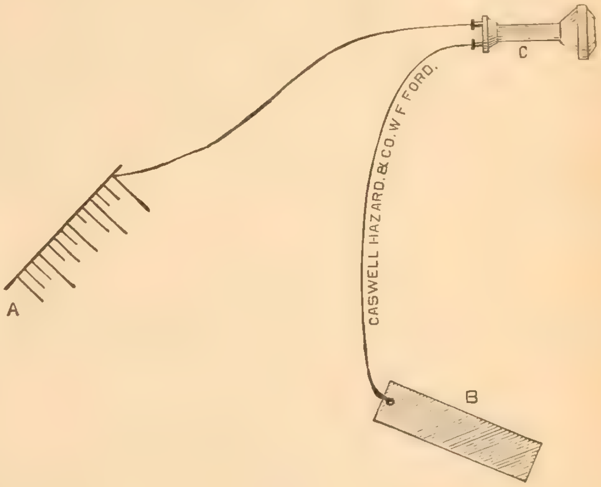

Fig. 7.

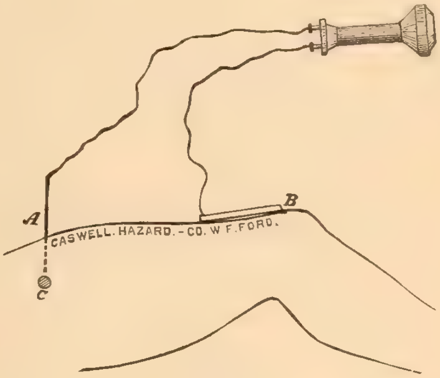

Fig. 8.

poles, and a feeble, continuous electric current passes through the circuit thus formed; but when the needle touches a metallic mass, this current is interrupted and a distinct and peculiar "click" is heard in the telephone, and the distance of the bullet from the surface can be read off on the graduated probe. If the needle touches bone or any other tissue, no noise is heard.

This probe can, of course, be used independently of the induction balance, and with equally good results, when the probe is made to follow in the track of the bullet, and any other metal than steel may be used for the probe, provided the plate applied to the surface be of the same metal.

If we leave out the cost of the battery and of the telephone receiver, neither of which need be used exclusively for these appafatuses, the cost of the instruments need not exceed thirty dollars. I desire to express my thanks to Mr. W. F. Ford, of Caswell, Hazard, & Co., for the cuts used in this article.

ANTISEPTICS
IN PRIVATE PRACTICE AND EMERGENCIES.

By ARPAD G. GERSTER, M. D.

(*Concluded from page 367.*)

II. Aseptic Measures in Emergencies.

Unremitting attention to and a severe self-discipline in always carrying out the measures of cleanliness known to be necessary to uniform success in the management of wounds will become, however irksome in the beginning, a mere matter of accustomed routine. As the mind and senses gradually learn to exercise vigilance without special effort, the surgeon's results will become more and more gratifying. His attention, freed from the severe strain unavoidable in acquiring command of the detail of a difficult business, will concentrate itself upon higher objects, and the smooth routine resulting from long and severe training will not divert attention from the finer detail of his special work.

It is a great mistake, paid for by the loss of limbs and lives, to believe that the mastery of practical cleanliness or asepticism can be acquired without a clear comprehension of the principle, and without earnest and severe training in the handicraft of asepticism.

The phrase "*simple cleanliness*," or "*mere cleanliness*," has a meaning not dreamed of by some colleagues. To them it is an easy and small thing, possessed at will by anybody whenever wished for. But this is a great mistake, as cleanly habits of person, cleanly ways of surgery, are just as difficult to acquire as a cleanly way of thought and action in the matter of morals.

The new surgery of cleanliness does not tolerate pretense and imposition. Its only test of worth is the result or the manner of healing of the wound. The criterion is very simple. Whatever practice achieves union without suppuration is good practice; whatever treatment results in suppuration against the wish and will of the surgeon is faulty treatment, and needs correction and expurgation.

The wholesome truth that failure of achieving primary union in a fresh wound is mainly due to one's own lack of knowledge or skill, and that these attributes can be secured only by the exercise of great diligence and many often unsuccessful trials, should be constantly before our minds. Failures are bitter lessons, but their honest study inevitably brings to light the causative deficiencies, and will teach us to avoid them.

The school for learning to employ the principles of asepticism is open to every general practitioner in the treatment of the many affections and injuries pertaining to minor surgery. Mistakes made in the removal of a wen or the treatment of a small incised wound are easily found out and easily corrected. They carry as much and sometimes more instruction than a large operation, because attention is not easily averted from the detail of the wound treatment.

It is wicked to try to learn the first lessons of asepticism in laparotomy or a major amputation where the surgeon's experience may be bought with the life of his trusting patient.

Emergencies will necessarily involve varying modifications of the means, *never a deviation from the principle.*

A hasty tracheotomy for the removal of a foreign body, a kelotomy to be done in the dead of night amid the squalid surroundings of a tenement, or the first care of a compound fracture or gunshot wound, will present special and varying difficulties, to be overcome only by good training, circumspection, and versatility. They can be overcome, as many examples in the experience of every successful surgeon testify.

Case I.—Michael B., aged sixty-three, compound fracture of left elbow joint sustained November 13, 1883. Twelve hours after the injury I found a Y-shaped fracture of the lower end of the humerus, the sharp point of the upper fragment protruding through a small wound above the olecranon. Joint distended by clot; some oozing from wound. The edges of the perforation wound were snugly fitting around the protruding bone, and good care was taken during the subsequent manipulations not to allow the bone to slip back. Unaware of the nature of the injury, I arrived at the bedside entirely unprepared. But the case did not brook further delay, the hour was late, and I decided to extemporize the necessary dressings.

Several ounces of a ten-per-cent. alcoholic solution of corrosive sublimate and some iodoform were ordered from a drug-store, and several bundles of cotton batting were procured. Soon we had plenty of a 1-to-1,000 solution of sublimate, in which square pieces of cotton were soaked as described. The patient being poor, we had to manage with limited means. An old clean bed-sheet was ripped into roller bandages, which were laid into the lotion. This done, soap and hot water were applied to the elbow, and the skin was shaved clean all around the perforation. After this the skin and protruding bone were well rubbed off and rinsed with mercuric lotion poured from a pitcher, and the bone was reduced and adjusted to the other fragments. In order to provide some drainage, a small fillet of cotton dusted with iodoform was inserted into the cutaneous wound, which also was covered with iodoform. Over this were placed four layers of cotton pads and snugly bandaged to the well-extended limb. Two lateral pasteboard splints secured the extended position, and the limb was vertically suspended from a nail in the ceiling. The temperature never arose above 100° F. November 19th the dressings were removed. Swelling due to effusion of blood had disappeared; oozing had ceased; *no sup-*

puration. The fillet of cotton was withdrawn and the arm was put up in a plaster-of-Paris splint flexed at a right angle. Passive motion was commenced four weeks after the injury. Ultimate result noted October, 1884: Flexion normal; extension can not be carried beyond 140°.

Case II.—Hermann John, laborer, aged sixty-one. Strangulated, irreducible, femoral hernia of long standing. Symptoms of intestinal occlusion since the evening of April 1, 1882. Dr. Wettengel, the family attendant, administered chloroform at 2 P. M. of the following day. The operating-room was a narrow and dark rear room of a rear building of a squalid tenement, and a lamp had to be procured. The patient's pubic and inguinal region was shaved and well rubbed with carbolic lotion, of which an abundant supply had been first prepared. A flat bake-pan, taken from the cupboard, was washed, and its inside was spread with a clean towel, as it was impossible to free it from all the adhering grease. The instruments were laid into this pan and were covered with carbolic lotion. No sponges were at hand, as the summons had been very hasty, wherefore a part of a clean bed-sheet was torn into small compresses, which, being well soaked in carbolic lotion, served instead of sponges. A remnant of the lotion was saved in a pitcher for irrigation. The surgeon's hands and the patient's inguinal region were well rubbed off with the lotion, and then external herniotomy was performed. This proving insufficient, the sac was laid open and a prolapsed portion of the omentum was found adherent to the sac. This being dissected away, it was easily put back into the abdominal cavity, together with the small knuckle of protruding gut. The wound was well mopped out and was closed with a number of catgut sutures. A few strands of catgut were inverted into the lower angle of the wound for drainage. In the absence of other dressings the remnant of the bed-sheet above mentioned was used for the manufacture of a number of compresses and roller bandages, which, being saturated with carbolic lotion, were utilized as dressings. Vomiting ceased at once; the oozing being very scanty, the dressings soon became dry, and, as the patient's condition continued to improve, they were left undisturbed for a fortnight. When they were removed the wound was found completely closed.

TREATMENT OF ACCIDENTAL WOUNDS. TEMPORARY AND DEFINITIVE RELIEF.

1. *Temporary Measures.*—Taking charge of a fresh case of accidental wounding, the surgeon should bear in mind that on one hand, by the avoidance of suppuration, a complete, or almost complete, restitution of normal conditions can be accomplished in a great majority of cases; on the other hand, suppuration will enormously increase the gravity of a given injury. A compound fracture of the leg, or an incised wound of the wrist, with opening of joints and severing of arteries, veins, and tendons, may serve as an example.

In approaching a fresh case of bloody injury, we should always consider the possibility that the wound may be surgically clean, or may still be aseptic, and that our first ministrations should not carry septic contamination into the wound, and thus harm the patient instead of aiding him.

As a matter of fact, a large proportion of incised and lacerated wounds or compound fractures, by blunt force or gunshot, *are aseptic.* They need no disinfection. The surgeon's first object in these cases should be *not to spoil matters by hasty action and ill-considered zeal.* With the comparatively rare exception of injuries to large vessels accompanied by dangerous hæmorrhage, where immediate action is imperative, conditions should be created by the surgeon under which safe—that is, aseptic—approach to the wound is made possible. Temporary protection of the wound in the shape of a simple dressing is meant thereby. Iodoform powder profusely dusted over the wound and its vicinity, a compress made of a clean towel dipped in hot water or carbolic lotion, also well dusted with iodoform and tied on to the wound, will be sufficient. The addition of a temporary splint in cases of compound or gunshot fracture will make transportation to the patient's home or to a hospital possible, and will thus afford time for the absolutely necessary preparations. Extensive or even superficial examination of an accidental wound by probing or digital exploration in the street, on a train, or in a railroad-station or drug-shop, is strongly to be condemned, as it almost necessarily exposes the wound to unavoidable infection. Meddlesome and untimely surgery of this kind smacks of ostentation, is unnecessary, and, in many cases, positively more dangerous than the injury itself.

Bergmann's experience during the Russo-Turkish war has shown that most gunshot wounds are aseptic, and that, with the exception of cases where shreds of soiled clothing or gun-wads have been carried along by the projectile into the bottom of the wound, healing without suppuration can be safely expected, if the wound is not infected by meddlesome and uncleanly surgery. These experiences referred principally to gunshot fractures of the knee joint. As a matter of fact, it may be safely assumed than an examination by probing or digital exploration, performed on the filthy floor of a railroad-station or on the street pavement, even by the most experienced surgeon, can not be, and is not, cleanly or aseptic. It is extremely dangerous, unnecessary, and hence culpable. Even in most cases of profuse arterial hæmorrhage, mesial constriction with an extemporized tourniquet, as, for instance, the "Spanish windlass," or digital compression of the afferent arterial trunk, can be successfully employed while the patient is transferred into a suitable locality, where permanent relief can be safely afforded by deligation.

The collected and business-like manner of the surgeon will at once allay confusion, prevent hasty and injurious interference, inspire the patient and those present with hope and confidence, and facilitate well-considered and rational action.

As a rule, the fate of a flesh-wound is determined by the views and training of the physician who first attends to it. If the patient is so fortunate as to fall in with a man fully imbued with the spirit and familiar with the practice of aseptic surgery, he is truly to be congratulated, because his chances of avoiding suppuration are excellent. If his first attendant is one of the still numerous band of surgeons to whom wound infection by dust or filth adherent to hands or a probe is a myth, woe unto him!

Without previous cleansing, immediate probing of the gunshot wound, of a vertebra, for instance, accompanied by digital exploration, is performed on the patient extended on a mattress laid on the dirty floor of a railroad-station. Of course, the bullet is not found, and nothing beyond the infection of the wound is accomplished.

A dressing is applied, any way, and the patient is taken home. Suppuration, that otherwise might have been avoided, is sure to set in, and the patient is doomed. No amount of consulting can devise a way for, no surgical skill can establish, efficient drainage of the inaccessible parts of the wound. Here the chances for recovery were thrown away from the outset.

On taking charge of a fresh wound, the fearful and often irremediable consequences of a first false step should always be present to the mind of the surgeon, and his attention should be directed chiefly to the avoidance of septic infection. A temporary aseptic dressing having been applied, the general condition and comfort of the patient should be looked to by the administration of stimulants or sedatives. After transfer home or to a hospital, the necessary measures for permanent relief should be carried out as soon as the patient's general condition will permit.

2. *Definitive Relief.*—Preparations comprehensive and thorough, as required for an aseptic operation, should now be made.

The patient is well stimulated if necessary, is anæsthetized if the case requires it, and, his clothing being removed by cutting or in some proper manner, he is placed on the operating-table. After this should come a careful cleansing and sterilization of the surgeon's and his assistants' hands by scrubbing with soap and brush and immersion in a germicide lotion, followed by a likewise thorough cleansing of the integument in the vicinity of the wound.

Plenty of soap-lather with the use of the razor, scrubbing with soap and brush, rubbing and washing off with a solution of corrosive sublimate, will soon accomplish this.

a. Contaminated Wounds.—The character of further procedures will have to be decided by the answer to the question, *Is the wound clean or is it contaminated?*

Gross evidence of contamination, such, for instance, as street dirt imbedded in the wound or the blood-clots, or the knowledge that the wounding was done with a filthy instrument, as, for instance, the foul and fœtid butcher's cleaver, will answer the question in the affirmative. In these cases the leading object should be thorough cleansing and disinfection, followed by very comprehensive measures at drainage. If the external wound is small, it should be well enlarged so as to afford good insight. Every nook and corner of the wound should be systematically gone through, cleansed of clots and dirt, thoroughly irrigated, and well drained. Great care must be taken not to overlook recesses, as one particle of filth left behind unawares may vitiate the whole undertaking.

Drainage of the more remote recesses should be made as direct as possible; that is, a rubber tube carried to the surface from a distant corner of the wound through a properly placed counter-incision will effect more direct, therefore better, drainage than a long tube bent or twisted and brought out through a distant opening.

Hæmorrhage must also be, of course, well stanched by ligature or otherwise.

Divided tendons, nerves, muscles, or fractured bones are next united by suture, and, if the edges of the wound are viable, they are also approximated by sutures. Where extensive loss of substance precludes uniting of the edges, or where uncontrollable oozing prevails, the wound should be packed. This is best done by first lining the entire wound with one layer of iodoformized gauze, within which is packed a suitable number of loose balls of sublimated gauze. After a final irrigation and cleaning of the drainage-tubes the wound and its vicinity are enveloped in a moist dressing, that should be protected from evaporation by a large piece of rubber tissue or Macintosh. In case of fracture, the limb is supported by a suitable splint.

If the steps described above are adequately taken, as a rule no septic fever, no destructive suppuration, will follow an accidental injury; though *aseptic* fever due to absorption of non-decomposed secretions may often enough be observed.

Tissues or bone, whose vitality was compromised by the crushing force causing the injury, will be gradually detached. This will be accompanied by a rather scanty secretion of thinnish sero-pus, and very little, if any, fever.

b. Aseptic Wounds.—The nature of many wounds and their causation is such as to preclude the probability of contamination. Most gunshot wounds and many compound fractures belong to this class. In these cases interference should be very discreet. It should consist of a thorough cleansing of the integument, ordinarily an aseptic *dry dressing*, or, in case of doubt, of superficial drainage and a *moist dressing*, together with reduction, support, and retention by splint, where a fracture requires it.

In the more extensive injuries of the extremities caused by crushing force, the gravity of the case hinges more upon the extent of the injury to the soft parts than to the bones. A compound fracture by direct force, for instance, the blow of a hammer upon the tibia, where the crushing and laceration of the soft parts is comparatively limited, is by far not as dangerous as, for instance, the stripping off of the entire integument of the lower extremity, or the crushing and pulpification of the large muscles, nerves, and vessels of the anterior and internal aspect of the thigh, though these latter injuries be uncomplicated by fracture. The shock, the presence of extensive thrombosis, in addition to the fact that with the large quantity of mortified tissues preservation of the aseptic state is extremely uncertain and difficult, class these injuries among the most grave and dangerous.

c. Gunshot Wounds.—The fact that most fresh gunshot wounds are aseptic has been pointed out by Esmarch, and is now well established. Reyher and Bergmann's experiences in the Russo-Turkish war put the fact beyond controversy.

Wise precaution against infecting a fresh gunshot wound will be richly rewarded by excellent results. In most cases cleansing and disinfection of the skin in the vicinity of the points of entrance and exit, together with a *dry dressing*, will be sufficient. If the case is complicated by fracture, a suitable splint, preferably plaster of Paris (Bergmann), should be added.

If the course is free from septic fever and suppuration, this will be manifest within the first three or four days;

the splint can be left undisturbed for the length of time required for the accomplishment of bony union.

Flesh wounds will be healed within a fortnight or three weeks. Gunshot fractures will require a longer time for healing and consolidation, but are in no way different from ordinary compound fractures.

The projectile will cause very little or no irritation in aseptic—that is, non-suppurating—gunshot wounds. Generally it will become encysted. Search for the projectile in the bottom of the wound is rarely indicated. It can occur, however, that pressure of a projectile or its fragment, or a sharp spiculum of bone, on a nerve trunk may necessitate search and extraction. This must be done under careful asepsis.

It is even not necessary to remove a projectile lodged under the skin. It will do no harm if left there until the channel which it cut by its passage through the tissues is obliterated, when its removal by incision can not lead to an infection of the bullet-track.

In cases of injury to large vessels or the intestines, immediate interference can not be delayed, but should be carried out under most rigid antiseptic precautions.

Recent successes (W. T. Bull) achieved by immediate laparotomy and suture of the wounded intestines justify the procedure.

Where the nature of the charge or the short distance from which the shot was delivered makes the entrance of a gun-wad probable, or where the examination of the superjacent clothing shows a large defect, rendering the probability great that shreds of soiled cloth have been carried to the bottom of the wound, dilatation, search, and extraction may be indicated. But it is better to wait in cases of doubt, as even these foreign substances may become encysted and harmless.

Should suppuration follow, the patient will not be worse off than if a fruitless search had been made at the outset, and the use of the suppurating tract as a guide will materially facilitate the finding of the irritating body.

(*Note.*—Reyher's observations* may serve as a fair sample of the radical change that has taken place in the results of the treatment of gunshot fractures.

Gunshot fracture of the knee joint was formerly considered a *prima facie* indication for immediate amputation. Reyher treated eighteen fresh cases aseptically—that is, by simply cleansing and disinfecting the skin about the wound, and occluding the same by an antiseptic dressing. Where the wound was gaping, or where there was ground to suspect the entrance of dirt or shreds of clothing into the bullet track, dilatation, irrigation, and extraction of the foreign body, with subsequent drainage, was practiced before the wound was sealed up. Of these eighteen cases, fifteen recovered with movable knee joints—83·3 per cent. of recoveries. One patient died in twenty-four hours after the injury, of fatty embolism; another of hæmorrhage from the divided popliteal artery and vein on the fifth day; and the third one of pyæmia.

Of nineteen that came under his care several days after the reception of the injury, with well-established suppuration, eighteen died, and one recovered with a stiff joint. In spite of an energetic antiseptic treatment by incisions, drainage, and irrigation, a mortality of 85 per cent. was noted.

Of twenty-three that were not subjected to any form of antiseptic treatment, twenty-two died, one survived—a mortality of 95·6 per cent., clearly justifying the practice of the older surgeons, who at once performed amputation in cases of gunshot fracture of the knee joint.)

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* Volkmann's "Sammlung," Nos. 142, 143, 1878.

SOME EVIDENCE RELATING TO ASHEVILLE AND THE MOUNTAINS OF NORTH CAROLINA IN THE CLIMATIC TREATMENT OF PHTHISIS.

By T. MORTIMER LLOYD, M. D.,
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A visit to the mountains of western North Carolina, made by Dr. Avery Segur, of Brooklyn, N. Y., and the reporter, so impressed them with the natural sanitary advantages of this region that they determined to make further inquiry.

Very valuable reports were found based upon the personal experience and observations of Dr. J. W. Gleitsmann, formerly proprietor of the "Mountain Sanitarium for Consumption" at Asheville, N. C., now of New York city, of Professor Stanford E. Chaillé, of New Orleans, La., and Dr. H. O. Marcy, of Boston, Mass. Knowing that many cases had been sent to this section, and finding comparatively few published reports, they instituted a clinical inquiry by addressing a circular letter and questions to nearly three hundred prominent physicians in the large cities.

Western North Carolina, of which Asheville is the center, embraces an elevated expanse of 6,000 square miles, with a general altitude of 2,000 feet. This region, triangular in outline, 200 miles in length from north to southwest, with a varying breadth of 15 to 65 miles, lies between the Blue Ridge and Smoky ranges, and is filled with cross-chains of mountains, mountain spurs, and isolated hills. It presents a most irregular surface, a sea of mountain-peaks ranging from 3,000 to 6,700 feet in height. The Alleghanies here attain their most lofty, rugged, and striking development. There are between 60 and 70 peaks over 6,000 feet high. Mount Mitchell, 6,711 feet above sea-level, is the loftiest summit east of the Rocky Mountains. The Blue Ridge is the water-shed of the system; "its inner slope throughout the entire length, as compared with the outer slope, is more gentle in its descent, heavily wooded, and diversified with clearings. The Smokies present similar characteristics, richly wooded descents toward the central valley, rocky and sterile fronts toward Tennessee." The geological formation is of the oldest, and the water has a purity and softness seldom equaled. There are many mineral springs which remain undeveloped. There are six great valleys, with tortuous configuration, separated by intervening ranges, each drained by one of the rivers which cut asunder the Smoky range of mountains. The mountains are all covered with timber, which is remarkable for the great variety of species and for the size attained, especially on the higher slopes. The soil is rich, yielding, where cultivated along the rivers and in many mountain coves, a great variety of fruits and grains of fine quality. Tall, rich grass and nutritious weeds grow on many of the summits. To the botanist and lover of forest-trees this region is a perfect mine. Regarding its attractiveness, those who have traveled much and visited it generally concur in the opinion "that there is no mountain region in the eastern United States which equals in beauty and grandeur this sublime section of North Carolina." It abounds in romantic streams, waterfalls, luxuriant forests, majestic mountain heights, cliffs, valleys of exquisite beauty, and quaint villages and settlements. There is such a small area cleared and under cultivation that the general impression on the traveler is that of a mountain wilderness. Hence the purity of its air. The clearness of the atmosphere on bright sunshiny days is remarkable, rendering very appropriate the appellation, "Land of the sky." No lakes or swamps are found. The freedom of this mountain region from malaria seems to be established by competent testimony. Mountain climbing affords an attractive work, and will clear the system of this tenacious poison. The purity of the air in this respect, and with an abundant vegetation, seems to point to a remarkable drainage of the soil, natural to the plateau, since so little of it is cleared and cultivated. Hence the composition of the atmosphere in respect to moisture is favorable to the cure of phthisis. Asheville is splendidly situated on rising ground 250 feet above the waters of the Swannanoa, near its junction with the French Broad River, at the foot-hills of the Black Mountain chain, 2,250 feet above sea-level. The population, according to the United States Census of 1880, was 5,868 for the township, and 2,616 for the town itself. While surrounded on all sides by mountain-ranges, Asheville is nevertheless not shut in by them, in every direction the more lofty ranges or peaks being at least ten miles distant. This insures an abundance of sunshine at all hours of the day, and an absence of "down draughts" of cold night air, characteristic of places lying in a deep, narrow valley at the foot of overhanging slopes, and contributes much toward the comparative equability and comparative dryness of atmosphere of this climate. Its environs are beautiful, with many attractive drives to local places of interest and points commanding views of billowy hills and distant amphitheatre of mountains. From its central position excursions can conveniently be made by rail, carriage, and especially by horseback, to all parts of this mountain region. The mean average temperature, taken for thirteen years (1867 to 1879), was: Spring, 53·70°; summer, 70·66°; autumn, 53·96°; winter, 38·30°; and for the year, 54·10°. "At about 35° 30′ latitude, Asheville has the summer temperature of St. Paul, Minn., 45°, and the winter temperature of Fayetteville, Ark., 36° latitude. . . . During a period of eight years (1867 to 1875) the thermometer but twice rose above 88°, and but three times fell below 3°." The extremes were a maximum of 90° and a minimum of 1°.

Table showing winter temperatures, abstracted, obtained through the courtesy of Dr. J. W. Gleitsmann, of New York, by whom the observations were made.

OBSERVATIONS.	Dec.	Jan.	Feb.	Mch.	Year.	Remarks.
	Deg.	Deg.	Deg.	Deg.	Deg.	
Mean temperature...	37·80	37·70	39·40	45·50	54·10	Observations of 13 years (1867–'79).
Mean maximum temperature (self-registering thermometer)............	44·74	44·27	46·08	60·68	64·30	Observations of 2 years (1878–1879).
Mean minimum temperature.........	30·79	27·64	29·92	39·53	45·98	
Absolute maximum temperate........	65·00	69·20	71·50	74·50	94·00	Observations of 4 years (1876–1879).
Absolute minimum temperature......	4·50	−6	14·00	12·00	−6	
Mean relative humidity	71·92	67·13	64·97	59·51	70·32	Observations of 4 years (1876–'79).
Average rain-fall (in.)	3·03	2·62	3·62	4·30	42·55	Observations of 11 years (1869–'79).
Number of fair and clear days........	18	17	16	25	259	Observations of 2 years (1878–'79).

To indicate the severest temperature ever likely to be experienced in Asheville, the following points were noted from a temperature chart (prepared by D. S. Watson) of last winter, the coldest throughout the South for very many years. In January there were five days in succession with the lowest temperatures varying from 12° to −1°. In February the lowest temperatures were again on successive days 8°, −3°, +10°, the average being much higher. During January and February there were twenty-seven clear days and fifteen partially clear. There were several light snow-storms, and two each eight inches deep. From our examination of the records, including that of last summer, it can fairly be said that this region has one of the lowest summer temperatures, and that few places are found on the eastern side of this continent combining such coolness of summer with comparatively mild winter. "During a period of ten years the highest temperature was only twice 88° and once 90°. . . . The diurnal ranges of the thermometer are very small when compared with the high regions of the West." The average annual rain-fall during eleven years (1869 to 1879) was 42·55 inches. The "conditions for production of ozone are present, abundance of vegetation, of water, of electric tension, and great evaporation."

Testimony.

Q. 1. How many patients have you known to be sent to Asheville, N. C., for consumption?

Q. 2. Please give names and addresses of physicians sending them. "I have sent about thirty to this region; the majority went to Asheville."—Dr. H. O. Marcy, Boston, Mass. "Perhaps thirty or forty sent by myself."—Dr. Edgar Holden, Newark, N. J. "A great many, but can not give number."—Dr. R. A. Kinloch, Charleston, S. C. "'Three,' sent by Dr. C. A. Folsom, Boston, Mass. 'Several hundred certainly,' sent by Drs. Loomis (New York), Marcy (Boston), Da Costa (Philadelphia), Donaldson (Baltimore), Davis (Chicago), and other prominent physicians of the large cities."—Dr. Wardlaw McGill and Dr. S. W. Battle, associate practicing physicians of Asheville, N. C. "'I treated myself 136 patients at Asheville between 1875 and 1879,' sent by Drs. Loomis, L. Conrad, George G. Wheelock (New York), William Pepper, J. Solis-Cohen

(Philadelphia), E. Holden (Newark), H. J. Bowditch, F. I. Knight (Boston), A. Y. P. Garnett (Washington), J. B. Gaston (Montgomery, Ala.)."—Dr. J. W. Gleitsmann, formerly proprietor of a sanitarium at Asheville, now of New York city. "One."—Reported and sent by Dr. Thomas F. Rochester, of Buffalo, N. Y. "One."—Dr. S. D. Kennedy, New Orleans, his own case, reported through kindness of Dr. P. B. McCutcheon. "I have only the record of one case sent to Asheville, though I have directed several to go there from the Adirondacks this fall."—Dr. E. D. Ferguson, Troy, N. Y.

Q. 3. (*a*) In your experience, what are the most favorable months for consumption in the climate of Asheville? (*b*) and what are the most unfavorable? "(*a*) Autumn; (*b*) early spring."—Dr. H. O. Marcy. "I have always sent during winter."—Dr. E. Holden. "My observations confined to summer and fall."—Dr. R. A. Kinloch. "(*a*) May to June; (*b*) February and March."—Dr. Folsom. "(*a*) From April to December inclusive; (*b*) February and March, by reason of the roads more especially rather than that of the atmosphere."—Dr. McGill and Dr. Battle. "(*a*) Early spring until July, September to December; (*b*) January and February."—Dr. Gleitsmann. "(*a*) May to October; (*b*) December to May."—Dr. S. D. Kennedy. "(*a*) Summer and fall; (*b*) early spring."—Dr. J. A. Reagen, Weaverville, near Asheville, N. C.

Q. 4. What length of time have you known patients to remain with benefit? "Three years; met several who had lived many years. Settled because of lung troubles."—Dr. Marcy. "Usually three months."—Dr. Holden. "Have known disease apparently averted, and persons to remain there most of their time for many years."—Dr. Kinloch. "Two years."—Dr. Folsom. "Indefinitely."—Dr. McGill and Dr. Battle. "I know quite a number of people who have settled permanently in Asheville, and regained and retained thereby their health."—Dr. Gleitsmann. "Eighteen months, after having been in Rocky Mountains for six months."—Dr. S. D. Kennedy. "For several years."—Dr. J. A. Reagan. "One of my patients was so much benefited that he left his New York position and bought a farm near Asheville, where he still lives in perfect health, and has done so for five or six years."—Dr. F. W. Rockwell, Brooklyn.

Q. 5. How many patients with incipient phthisis have recovered? "Too early to say positively; several seeming cures."—Dr. Marcy. "Many seemed well and subsequently died; a very few remain well."—Dr. Holden. "We may safely say a dozen under our very eyes."—Drs. McGill and Battle. "Of my 136 patients, 86 had incipient phthisis, 64 of whom improved."—Dr. Gleitsmann. "One."—Dr. S. D. Kennedy. "Have sent several cases of incipient or pronounced phthisis (in early stages) to Asheville, and always with good results."—Dr. F. W. Rockwell. "All the sick whom I have ever known sent to that section have improved except one."—Dr. Stanford E. Chaillé. "None in my practice of thirty-five years."—Dr. J. A. Reagan.

Q. 6. Have you known patients apparently cured in Asheville to have a relapse and die soon after leaving? If so, how many? "None of my sending."—Dr. Marcy. "No; but some failed to improve, and ran down rapidly upon return."—Dr. Holden. "No."—Dr. Folsom. "More than one. Have known of several who have tried to live elsewhere, but were compelled to return."—Dr. McGill and Dr. Battle. "No, not soon after. Of my patients, none within one year."—Dr. Gleitsmann. "The case improved the first winter, but would return to Troy to spend the summer, to be taken with acute extension on the eve of his proposed return, and a rapidly fatal issue."—Dr. E. D. Ferguson. "Very few."—Dr. J. A. Reagan.

Q. 7. In what stages of phthisis have you seen improvement? "Early stages."—Dr. Marcy. "The early stages of fibroid disease, first and second of strumous phthisis."—Dr. Holden. "Rather late in one; moderately late in one; so late that it seemed almost useless in one, and he has improved the most."—Dr. Folsom. "A large proportion of incipient phthisis are benefited."—Dr. McGill and Dr. Battle. "In the first and second stages; in the third stage (hectic, cavities), in only two cases."—Dr. Gleitsmann. "First."—Dr. S. D. Kennedy. "Most marked in first and second stages, but known improvement in third stage, and life prolonged."—Dr. J. A. Reagan.

Q. 8. What effects have you noted upon the following symptoms? Dr. Folsom reports: "Loss of appetite and dyspepsia, three improved; diarrhœa, not a symptom; pharyngeal catarrh, two improved; bronchitis, expectoration, harassing cough, night-sweats, and emaciation, three improved; not a symptom in the others." Dr. McGill and Dr. Battle report: "Loss of appetite and dyspepsia generally improved; diarrhœa, negative effect; pharyngeal catarrh and bronchitis generally improved; expectoration lessened almost always; harassing cough generally lessened; in night-sweats, emaciation, and hæmoptysis, improvement only noted with that of other symptoms." Dr. J. A. Reagan: "Appetite and dyspepsia are improved; diarrhœa, pharyngeal catarrh, bronchitis, expectoration, nearly all improved; harassing cough all improved; night-sweats, emaciation, and hæmoptysis, nearly all improved." Dr. S. A. Kennedy: "Appetite, bronchitis, expectoration, harassing cough, night-sweats, and emaciation all improved in one case."

Q. 9. Have you known of patients injuriously affected by a sojourn in Asheville? If so, how many, and under what circumstances of stage of disease, complications, seasons of the year, etc.? "No; because I have sent only selected cases."—Dr. Holden. "No."—Dr. Kinloch. "No."—Dr. Folsom. "We fail to recall any cases where its injurious effects were directly traceable to climatic influences."—Dr. McGill and Dr. Battle. "Of 136 patients, 71 improved; the balance of 65 did either not improve or grew worse."—Dr. Gleitsmann. "This one (exception referred to in Dr. C.'s statement, classed under Query 5), contrary to my views, remained in the town of Asheville during the summer, where it is very dusty."—Dr. S. E. Chaillé. "No."—Dr. J. A. Reagan.

Q. 10. How many cases of phthisis have you known to originate in the vicinity of Asheville? If any, how many were hereditary? How many were acquired? "It is said that phthisis has originated here. It is claimed that it is not hereditary here, and when it has occurred it is supposed to be due to want of proper food and to bad hygienic surroundings."—Dr. McGill and Dr. Battle. "None to my personal knowledge."—Dr. Gleitsmann. "Originating in vicinity of Asheville, 'ten,' 'all' hereditary; 'none' acquired."—Dr. J. A. Reagan.

Q. 11. How many subjects of acute pneumonia and bronchitis originating in Asheville and vicinity have you known to become phthisical? "We recall one instance; in this the disease was arrested and the recovery complete."—Dr. McGill and Dr. Battle. "None to my knowledge."—Dr. Gleitsmann. "None."—Dr. J. A. Reagan.

. . . .

Q. 16. Is the climate generally conducive to sleep? "I think so."—Dr. Marcy. "Yes."—Dr. Kinloch. "At Asheville, yes, in my experience."—Dr. Folsom. "Decidedly."—Dr. McGill and Dr. Battle. "Yes."—Dr. Gleitsmann. "Yes."—Dr. S. D. Kennedy. "Yes."—Dr. F. Peyre Porcher, Charleston, S. C. "Yes."—Dr. J. A. Reagan.

Q. 17. Have you known of patients visiting Asheville or vicinity contracting malarial or typhoid fevers, or other diseases? "Diarrhœa and dysentery, several." — Dr. Marcy. "There has been a complaint which seems well founded that the water-supply is bad. . . . Typhoid fever often met with in all this mountain climate, more frequently formerly than now."

—Dr. Kinloch. “No; I should think there might be typhoid, unless they clean up.”—Dr. Folsom. “Never malaria, typhoid occasionally.”—Dr. McGill and Dr. Battle. “Malaria is seldom, but not unknown in western North Carolina.”—Dr. Gleitsmann. “Typhoid fever very common in Hendersonville, N. C., which is much resorted to. My family have often gone there for change and cool climate. Free from malaria, as is all that mountain region. Typhoid is not uncommon. I think the typhoid fever of Flat Rock all owing more to bad hygienic surroundings than to climate. *Malaria nil.* This mountain plateau has one of the most delightful climates in the world.”—Dr. F. Peyre Porcher. “We have no malaria in this mountain section.”—Dr. J. A. Reagan.

Under “*additional remarks*,” Dr. McGill and Dr. Battle say that “the climate is dry and tonic, and invigorating; elevation and atmospheric dryness are its strong points. Asthma is almost uniformly benefited here. Hay fever usually mitigated, and occasionally, in some instances, immunity is enjoyed.” Dr. J. A. Reagan remarks: “I have been practicing regularly at Weaversville, eight miles north of Asheville, for over thirty years. It is the same height as Asheville. I have not known a single case of consumption in this plateau of some ten miles. There have been a few cases on the river and creeks.” Dr. Pepper writes us (in answer to our circular letter): “I regret extremely that the excessive pressure of my business makes it impossible to answer your queries as to Asheville, especially because I have sent a great many patients there during a long series of years. The results are generally favorable to it as a health resort, and I doubt not that, with improving facilities and accommodations there, still better results will be obtained in the future.” He again writes, in reply to a special query regarding his views of the most favorable months at Asheville: “I have had much more experience with the climate of Asheville during the summer and fall months up to Christmas. The limited number of observations I have as to Asheville as a winter resort have not been so favorable, but it has been almost impossible until recently to get good accommodations and food there in winter.” Not having received any statistical statement of results from Dr. A. L. Loomis, we quote from his recent work (“Practical Medicine,” 1885, p. 206): “My most decidedly beneficial and permanent results (when the evidences of consolidation were present in catarrhal phthisis) have been obtained in Asheville, N. C., in New Mexico, and in the Adirondack region of New York State.” Dr. John T. Metcalfe, New York, kindly writes that he has known “very few” patients to be sent to Asheville for consumption. In his experience, late spring, summer, and autumn are the most favorable, and early spring and late winter the most unfavorable seasons. Dr. S. E. Chaillé, New Orleans, in his pamphlet, “The Mountain Sanitarium for Consumptives at Asheville, N. C.,” 1878, gives very interesting reports from Dr. J. B. Gaston, Montgomery, Ala., who sent five patients to Dr. Gleitsmann's sanitarium, and all were improved; and Dr. E. P. Gaines, Mobile, Ala., who sent four patients to the sanitarium, where all markedly improved, except one case diagnosed “miliary tuberculosis.” Dr. Chaillé further reported (*ibid.*) very beneficial effects upon one of his own patients from a short sojourn at Dr. Gleitsmann's sanitarium. “I have always considered the region of Asheville, N. C., as a particularly favorable climate for invalids, either in winter or summer, and have personal knowledge of cases who have been sent there receiving great benefit, especially those of cough and debility threatening phthisis.”—Dr. W. Elmer, Trenton, N. J. Dr. F. W. Owen, of Morristown, N. J., writes he has seen improvement in one case sent to Asheville in the first stages of phthisis. Dr. Thomas F. Rochester, of Buffalo, N. Y., reports that he sent one patient to Asheville. The patient went there in the fall and died there the next spring. He had pulmonary and laryngeal phthisis in the second stage. Dr. A. J. C. Skene, Brooklyn, N. Y., replies: “I have one impression (a general one), based upon observation, viz., that of the patients of mine who have spent the winter South, those who were in North Carolina have made the best progress.” We are indebted to Dr. Irving W. Lyon, of Hartford, Conn., for the following extract from a letter written, at his request, by Mr. Henry Rogers, an educated gentleman (lawyer) of New Haven: “In 1883 I went from Aiken, S. C., to Asheville about the 20th of April, and was pleased with the change. The mountain air there is tonic. The winters at Asheville are a little too cold, and the clay mud in the drives at that season is something fearful in places. After April 20th one can enjoy a couple of months there.” Dr. J. Madison Taylor, of Philadelphia, writes: “I had suffered much from chills and fever as a boy, and was sent, when about sixteen, to the mountains of North Carolina, where I remained six months. I hunted all over the mountains—sleeping in cabins or on the ground—gaining strength every day. I only suffered a few paroxysms, then became quite freed from all trouble. I have since spent much time at Montvale Springs in Tennessee, and the Warm Springs, North Carolina. I have been literally all over the United States, and, except in Colorado, don't know a more perfect climate.” Charles J. Kenworthy, M. D., M. R. S. V., Jacksonville, Fla., writes that after a severe attack of illness he went to western North Carolina last June to recuperate, and during three months' residence visited nearly all points of professional importance. “Asheville is a pleasant and fashionable summer resort, and presents many attractions to the tourist, but it is too cold in winter and too warm in summer for the successful treatment of phthisis. The soil is a cold, impermeable red clay. When it rains the streets are coated with a tenacious mud, and when dry, if the wind blows, the air is charged with dust. There is an absence of sewerage, and in consequence sanitation is defective; the air can not be aseptic. From my own observations and information, obtained from physicians in western North Carolina, I believe that phthisis is of more frequent occurrence than is admitted by interested parties.” Dr. William Porter, St. Louis, Mo.: “My best friend, Dr. Barrett, and his only son, both lost their lives there (Asheville) during the past summer from acute dysentery; but there was no great number of cases reported, as far as I know, in the vicinity.” Dr. C. F. Folsom adds to his statistical report: “It is difficult to get good accommodations for keeping warm in cold weather; it is sometimes very cold. My patients were directed to buy small farms (two farms were bought) and prepare their houses for the cold weather, and get their own supply of food. I think that the desirable places for residence should be picked out. I am told that the new hotels are first-rate, but I have told my patients, whose cases looked desperate when they went there, to keep in the air away from other sick persons, and the improvement has been very great.” Dr. H. O. Marcy, in a letter dated October 23, 1886, writes: “I have had no occasion to change my views since the publication of my paper. I have continued to have representatives in the section to date—invalids in varying conditions. The average boarding-house furnishes a less desirable home than at the North.” Dr. Chaillé, who passed from three to five months annually in this region during the years 1873, '75, '76, and '77, in his pamphlet above referred to says (page 6), in regard to the immunity from consumption: “My direct evidence as a practicing physician is limited to the neighborhood of the Warm Springs, on the French Broad River, and some nine hundred feet lower than Asheville. Though often consulted by the resident population, I have never seen but one case of consumption, this in a mulattress not a native of this section. My hearsay evidence is more extensive, yet I have never heard of but two other deaths by consumption in this neighborhood; these were of a younger brother and sister, in whom the disease was said to be hereditary and whose family had not long been resident in the region. I have made repeated mountain excursions in all directions, and from twenty to sixty miles distant from Asheville; everywhere I was assured of the comparative immunity from consumption of all this section, and in most places my informants denied that the native residents ever died of the disease." Dr. Marcy, in his pamphlet on "The Climate Treatment of Disease, Western North Carolina as a Health Resort," quotes from a recent letter written by Dr. Oliver Hicks, of Rutherfordton, N. C.: "My observations and the opinions I have formed are based upon a large practice for twenty years. I can show you sons and daughters of ancestors who came to this country and died from tubercular phthisis. Many of them are far past the meridian of life and are in good health, with fair prospects of attaining to ripe old age. The grandchildren of these ancestors are in all respects healthy, and are entirely without indication of tubercular or strumous cachexia."

Summary of Replies.—1 and 2. The number of patients referred to by Dr. McGill, Dr. Battle, and Dr. Gleitsmann of course include many, and perhaps the majority, of the cases sent by the other physicians. 3. The general opinion is that the spring (when mud is gone), summer, and autumn months, even to Christmas, are the most favorable seasons, and that January and February are the most unfavorable months. 4. It is generally agreed that a prolonged residence is beneficial. 5. Many recoveries are reported. Dr. Gleitsmann gives a striking report of sixty-four cases decidedly improved of eighty-six cases of incipient phthisis. 6. The answers indicate the lasting benefits of an Asheville residence. 7. As would be anticipated, the improvement has been chiefly in the early stages, but some striking benefits were experienced in unpromising cases. 8. Good effects are reported upon all the symptoms of phthisis noted 9. The replies are worthy of notice. Dr. Chaillé reports in one case the ill effects of the town residence. 10. The majority report great immunity from phthisis among the native residents. 11. Only one case of pneumonia and bronchitis originating in Asheville reported to become phthisical, and this patient recovered completely. 16. All the replies indicate that sleep is favored by this climate. 17. Regarding the diseases patients have contracted in Asheville, diarrhœa, dysentery, and typhoid fever have been noted, a warning to the town authorities. No malaria reported, and the advantage of this region for its treatment indicated.

Personal Observations.—Our visit to Asheville was made in September, during a heated period which was quite general, the temperature, however, being lower and less oppressive than in New York. We arrived just after a shower, which gave us a slight indication of the mud-forming possibilities of the reddish clay. The surface is so uneven, however, and the fall to the river valley so great, rendering surface drainage very rapid, that but comparatively little moisture is retained, excepting in winter and spring from frozen ground. The hotels, with one exception, are located in the central, business portion of the town, and are surrounded by stables which abound. "The Battery Park," a new hotel, is located on a hill overlooking the remainder of the town, and commands extended and charming views in all directions. The hotel is large, attractive, and well appointed; it is to be kept open for winter visitors; many of the rooms are provided with open fire-places. The principal piazza, facing southwest, is to be inclosed with glass. It has a delightful situation, but is too exposed to the northerly winds for invalids in winter, the mountains being perhaps most distant in this direction, permitting a full sweep across the plateau. An objection to the hotel arises from the use of soft coal for large furnace-fires, the smoke and soot from which are sufficient to soil the linen, and, what is most important, contribute to the contamination of the atmosphere of the town and immediate vicinity. As purity of air is the first and great condition of a health resort for phthisis, it naturally follows that the town is not the proper place for our patients. This is particularly emphasized in Asheville on account of the absence of sewerage with a considerable population, the presence of many stables in the center of the town, dust in summer, deep mud in winter, etc. Phthisical patients should, therefore, not remain in the town. Several boarding-houses were pointed out to us in the suburbs which, from their size and neat appearance of the houses and grounds, betokened comfort, and indicated more suitable places of abode for invalids than the public houses. While we lay strictures on the town for invalids, we must commend the region in general. The quality of the air was found stimulating and sustaining. Our personal experience showed that persons entirely unaccustomed to the saddle can at once spend hours every day on horseback without the slightest sense of fatigue or subsequent lameness, and with greatest delight, in the exhilarating mountain air and the noble and varied scenery. There are many coves near Asheville, and abounding in western North Carolina, where protection can be found from the cold winds, the northerly being the severest in this section. We were enabled to make a practical test of this point, as a marked change of temperature occurred, with a cold, northwest wind, during our visit; and we investigated the environs of Asheville on horsback for this purpose, and found a great protection and freedom from wind under certain ranges of hills. There are some pine groves near Asheville that also afford excellent protection. Some of these coves are well situated for the location of sanitaria such as some of those in Europe that have earned so good a reputation. The soil is mostly red clay, sandy in some parts, as along the shores of the Swannanoa, near Asheville, and gravelly, more especially farther westward, in the Balsam Mountains. The mountain coves have generally a rich loam. The Ducktown (or Southwestern) branch of the Western North Carolina Railroad passes through a most picturesque country, and makes easily accessible for the tourist some of the grandest mountain scenery on this continent. We were especially impressed with the apparent suitableness of the vicinity of Balsam Pass (3,400 feet above sea-level) for a sanitarium. Waynesville, Pigeon River, Clyde, and other stations on the Ducktown branch, are desirable sanitary locations. "A certain harmony existing between the patient on the one hand and the social and physical conditions of the health resort on the other, is in most cases a powerful auxiliary." We regard the vicinity of Asheville for this reason as a more suitable resort for the greater portion of the year for ladies than the majority of health resorts in this country. For an all-the-year climate this region offers the best combination of conditions we know short of the Rocky Mountains and the Southwest, and the most accessible and feasible place to send a majority of our Eastern patients. While it might be most desirable for some patients to spend January, February, and March among the pines in the elevated sections of Georgia, or other southern and milder climate, still we are convinced that many do perfectly well here throughout the year. This richly wooded country, with the numerous coves already mentioned, furnish many sheltered winter locations. We have in this report, for convenience, spoken of Asheville to commend its vicinity only as a part of the elevated plateau to which it gives access. Various avocations, other than farming and tobacco-raising, are successfully engaged in, such as bee-keeping and grape culture. We would again call attention to the recommendation of Dr. Folsom to his patients to secure their own houses, etc., which advice we shall give as we have occasion; and we would emphasize the necessity for a prolonged residence to effect cures in this sparsely inhabited region, which permits and invites almost unlimited roaming—differing greatly in this respect from all other Eastern mountain resorts. Asheville is reached in twenty-nine hours from New York by rail.

It remains to express our acknowledgments to the following books and pamphlets from which we have freely quoted, and in which will be found indices of nearly, if not quite, all the literature of this region:

1. "Western North Carolina as a Health Resort," by Dr. J. W. Gleitsmann, 1876. 2. "Climatotherapy of, and the American Mountain Sanitarium for, Consumption," by Dr. Stanford E. Chaillé, 1876. 3. "Biennial Report of the Mountain Sanitarium for Pulmonary Diseases, 1877," by Dr. Gleitsmann. 4. "The American Mountain Sanitarium for Consumption at Asheville, N. C.," by Dr. Chaillé, 1878. 5. "The Climatic Treatment of Disease: Western North Carolina as a Health Resort," by Dr. H. O. Marcy, Boston, 1885. 6. "Reference Hand-book of the Medical Sciences," article on Asheville, by Dr. Huntington Richards, 1885. 7. "The Heart of the Alleghanies, or Western North Carolina," by Ziegler and Grosscap.

Very pleasing descriptions will be found in "Nature's Trundle-bed of Recuperation," by Hinton A. Helfer, and every one who contemplates visiting this region should read "Land of the Sky," by Christian Reid. A useful list of boarding-houses and prices will be found in "How to Reach the Resorts of Virginia, North Carolina, and Georgia," published by the Richmond and Danville Railroad.

TWO CASES OF
TYPICAL DERMATITIS HERPETIFORMIS.

By LOUIS A. DUHRING, M. D.,
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Dermatitis herpetiformis is by no means so well known, even among dermatologists, but that the record of every case observed must add to our store of knowledge concerning this remarkable disease. Reports of both typical and unusual cases, as well as allied forms of disease, are of value, and serve to aid us in defining the limits of this process. The subject is new, and there is much to be done. Clinical reports are needed, for up to the present time comparatively little has been contributed. As typical of the commonest form of the disease, examples of which are not so rare as was once supposed, I beg leave to offer the following cases:

Case I came under my observation June 6, 1880, at which date the appended notes were taken. The man had been a patient in the Pennsylvania Hospital, and was sent to me for an opinion concerning the diagnosis by Dr. Longstreth, to whom I am indebted for the opportunity of noting the case. His name was Thomas Burke, aged twenty-two, a miner, residing in Wilkesbarre, strong, robust, and otherwise healthy. The disease began two years ago, without known cause, as a general eruption, consisting of variously sized *vesicles* and *blebs*, accompanied with severe itching. Sometimes, he stated, the lesions would appear in a more or less complete annular form, at other times somewhat concentrically; sometimes in groups or "in little clusters," on other occasions disseminated. A year ago the whole general surface except the hands and feet was covered with eruption, the lesions now being *vesicles*, *blebs*, and *pustules*, the two former predominating. More or less pigmentation has always existed, and in succeeding severe attacks of eruption has been a marked symptom. Last autumn (eight months ago) the vesicles for the first time made their appearance arranged in the shape of imperfectly formed rings, and this manifestation again repeated itself three or four months ago. They crusted, and a puriform fluid formed beneath, which when removed showed an excoriated surface. Notwithstanding that he lost thirty-five pounds in weight during the first year of the disease, his general health continued fairly good. At times, however, he was debilitated, and on different occasions was confined to bed, the skin being sometimes much excoriated. Within the last three months he has gained in flesh, and, although there now exists an abundant crop of lesions, he states that his general health is better than for a long period past.

About ten days ago a large, flat pustule appeared over the knee cap, and was accompanied with a deep-seated erysipelatous inflammation, together with loss of appetite and diarrhœa.

Four or five days ago a new crop of lesions began to form over the whole general surface, and to day they may be counted by the thousand. No region is exempt, although they occupy by preference the neck, chest, back, and abdomen. They are *vesicular*, *bullous*, and *pustular*, the vesicles prevailing. They are both disseminated and grouped into small clusters of twos, threes, and fours. They are of all sizes and shapes, and for the most part are irregular and angular in outline. The more recent vesicles are pin-head sized, indistinctly defined, flat, and difficult to discern, so that many would escape detection unless viewed in oblique light. They are pale-yellowish, tensely distended, have a glistening aspect, and are distinctly herpetic in character. Some are angular and squarish, while others are stellate. The larger and older vesicles tend to lose these characteristics, their walls, for example, being often flaccid, their contents clouded, with more or less marked inflammatory areolæ, as in the case of herpes zoster lesions. The blebs vary in size, some being as large as a hazel nut. The pustules are both yellowish and whitish in color, are pin-head and pea-sized, and have as a rule inflammatory areolæ. Bright and dusky-reddish and violaceous spots, the seat of former lesions, together with more distinctly pigmented macules of a dull reddish or dirty-yellowish hue, are also present. The glands of the neck, axillæ, and groins are all engorged, and the patient informs me that this condition is always present with severe outbreaks. The extensor and flexor surfaces are both similarly invaded, while such localities as the eyelids, scalp, ears, and neck, which in general eruptions are often spared, are also the seat of vesicles and small blebs.

The distribution of the eruption is irregular and without uniformity. In many places there is grouping, the clusters, however, being small, consisting of two, three, or more lesions. Patches the size of a silver dime or quarter dollar, upon which are aggregated a number of lesions, are also numerous. The intermingling of vesicles, blebs, and pustules, irregularly distributed, is a conspicuous feature. Whitish pustules, with puckered inflammatory bases, are not infrequently noted to exist immediately alongside of vesicles and blebs with clear serous contents. The pustules, as a rule, begin as such, and are manifestly not an advanced stage of either vesicles or blebs.

The most distressing symptom is the itching; it is severe, and, though variable in degree, is constant. As stated, it has always been a prominent feature of the disease, having been especially marked with each new outbreak.

The patient was seen again two weeks later, at which date the crop of acute lesions was plainly subsiding. The vesicles and blebs now were also flatter, and in many instances were flaccid, or were wounded from scratching. There was considerable excoriation, partly from scratching and in part due to the course of the process itself, some of the patches resembling a superficial scald. A likeness to the lesions of pemphigus foliaceus was suggested by the condition at this date, many of the blebs being ruptured, and their walls adhering to the skin beneath, or hanging in shreds. Had the case been seen for the first time at this period, the diagnosis of pemphigus foliaceus would probably have been made by some observers. There was still a marked tendency to grouping on the part of the few existing vesicles, but the disposition to concentric arrangement had disappeared. The results of treatment I am unable to give, as the patient passed from under my observation before any change had taken place.

The chief points in the case may be summarized as follows: The eruption began as a vesicular and bullous manifestation two years ago, and has persisted, with frequent exacerbations, rebellious to all remedies employed. The lesions have at all times, in a more or less marked degree, been herpetic—that is, have had certain characters in common with typical herpes. Together with the vesicles and blebs, distinct pustules have also on several occasions been present. The eruption, viewing its course as a whole, has been multiform, consisting of variously sized and shaped, disseminated, and grouped vesicles, blebs, and pustules, appearing in more or less well-defined crops at irregular intervals. Itching and burning have been distressing symptoms—far more so than in cases of subacute vesicular eczema of like grade. The disease is to be distinguished in the present instance from eczema and from pemphigus. Considering the variety of the elementary lesions displayed, the case may be classified as an example of the multiform variety of dermatitis herpetiformis.

Case II.—Another similar case may be referred to. The patient was a single lady, about thirty-five years of age, a teacher of music, who was kindly recommended to me by Dr. Bulkley, of New York. She was a brunette, of a neurotic temperament, and was suffering from shock to the nervous system, due to overwork. The cutaneous disease had existed four or five months, and she had for two months past experienced such severe and extensive outbreaks as to confine her to the house and at times to bed. The eruption had been, and was, characterized by considerable erythematous inflammation in the form of ill-defined patches, together with vesiculation and the formation of blebs. The disease was regarded by the several physicians who had seen her as a form of "vesicating erythema," or as "pemphigus pruriginosus." It had been very distressing on account of the itching, and had proved rebellious to all treatment. The general surface was the seat here and there, in large and small areas, of a subacute inflammation, consisting of acute and chronic, indistinctly defined, reddish, pigmented, erythematous, for the most part confluent, patches, with here and there developed or incipient vesiculation. There were elsewhere, moreover, discrete and confluent vesicles, and also blebs. The vesiculation referred to was flat, often ill-defined or abortive, and tended to spread out as a stratum, the process in this respect resembling erythema multiforme. In other localities, as about the neck, face, and extremities, minute, small and large, discrete and confluent, disseminated and grouped, herpetic vesicles abounded, some being flat and on a level with the surrounding skin, while others were more or less raised. Here and there blebs—some flat, others elevated, tense, or flaccid, variable as to size—existed, as a rule, unaccompanied with inflammatory areolæ. The vesicles generally were likewise "cold"—*i. e.*, without surrounding redness. In some localities (as the neck and back) the vesicles were present in large numbers, and, when this obtained, they were usually small, often not larger than pin-points and pin-heads, tensely distended, glistening, pale-yellowish, irregular or angular in outline, and flat. When they were grouped into clusters of two, three, or more, surrounding inflammation was usually present, the picture suggesting simple herpes. The herpetic nature of the process as a whole was manifest, this characteristic differentiating it from eczema. It could scarcely be mistaken for erythema multiforme, because, among other reasons, most of the vesicles were unattended by inflammatory areolæ. There was violent burning and itching, symptoms which had existed, with distinct exacerbations, from the beginning of the disease. The eruption had, moreover, always shown disposition to appear in crops, coming out at variable intervals, usually every few weeks, and in this way the process was kept up, the general surface being thus in a constant state of acute and subacute efflorescence. Finally, there existed pigmentation, of a dirty-yellowish hue, where previous patches had existed, and also excoriations, but crusts were not conspicuous.

The eruption had previously improved under the free use of arsenic in large doses, as much as "nearly a drachm of Fowler's solution" *per diem* having on several occasions been administered. This large amount "seemed to control the blebs," but did not cure the disease. Strychnine and quinine had also been employed, while, locally, alkaline, tarry, and carbolic-acid lotions afforded the most relief.

I saw the case a number of times during the month that the patient remained in Philadelphia. The eruption followed its natural course, new lesions forming from day to day, the older ones disappearing, followed by slight crusts and variable pigmentation. On several occasions there were marked exacerbations, great numbers of minute and small vesicles appearing in crops, accompanied with intense itching. The vesicles either arose from normal-looking skin, or from erythematous patches, in which latter case they inclined to flatten and spread out. There was no order in the development of the lesions; they constituted a mixed eruption, and this was at all times a striking feature in the natural history of the disease. Concerning the treatment, it may be said that everything was advised which would in any degree improve the condition of the nervous and digestive systems. Tonic saline laxatives and alkalies, together with quinine and other general tonics, were from time to time prescribed, while locally such remedies were employed as would be likely to prove serviceable in subacute vesicular eczema. The "liquor picis alkalinus," diluted, seemed to afford more relief than any other remedy. The patient gained in general health, and the cutaneous symptoms became less severe during the period she was under my observation. I am not able to give the final result.

THE HYGIENE OF THE HAIR.

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The hair absorbs considerable of the thoughts of mankind. I do not mean to infer that thought-absorption is one of its physiological functions, but to those who are so fortunate as to be blessed with a luxuriant growth of hair it is a source of pleasure, pride, and vanity, as its loss or deficiency occasions much anxiety and chagrin. To the youth the first appearance of a hair-follicle on the upper lip is not only an indication of dawning manhood, but also the signal for the purchase of a complete barber's outfit (barring the scissors)—razor, shaving-mug, brush, etc.—and their assiduous use. And, as years advance, an exuberant beard or moustache is the result of this cultivation. To those middle-aged or growing old, the first sign of baldness warns us that we are no longer young and can disguise the fact no more, although various and ingenious are the devices made, in combing and arranging the hair, to hide, as it were, "the nakedness of the land." A good head of hair is somewhat of a rarity at the present day. All desire to retain their hair, grieve to see it falling out, and fondly cherish the few remaining locks. We have but to enter a barber-shop to verify the truth of this remark, and watch our fellow-creatures getting a hair-cut. Observe, for the most part, how careful we are in giving directions to the barber what manner of cut we want, how punctilious about the part and the way it is brushed, how we scrutinize through the mirror before us his every manipulation in the tonsorial art, and how self-satisfied we feel when the finishing touches are completed—oiling, combing, brushing. How proudly we stand up and look at ourselves in the glass when all is o'er! While all desire to keep their hair, few do the right thing to retain it. One naturally runs to the barber, but generally the barber is the hair's worst enemy. The majority of people consider when they keep the hair a respectable length, neatly brushed, combed, and oiled, and have an occasional shampoo, that they are doing all that is necessary. As far as appearance is concerned this may be so, but it will not add much to its health and preservation.

The hair should be looked to from infancy up. To disregard this fact is to render one liable in after-years to a diseased condition of it, or a deficiency. The infant's head is often neglected, and not properly cleaned. As a consequence, a thick scurfy crust often forms upon the scalp. This irritates the skin, and gives rise to an eczema of the head. This should not be allowed to occur. The baby's head should be washed in lukewarm water, with Castile soap, twice or three times a week. This should be practiced from birth up, and the hair daily brushed. In very young infants the softest brush should be used. As the child increases in years, two should be used—a rather harsh one first to loosen the dirt, dried sebaceous material, and epithelial scales from the scalp, and brush it out; then a fine, soft brush to smooth the hairs out. A fine comb should not be used on a child's head, and a coarse one only to part or lay the hair. Too great care can not be lavished on the hair of children.

With the adult's hair, as with the child's, cleanliness is one of the first requisites. The scalp should be thoroughly washed at least once a month. One of the best cleansing substances is the yolk of an egg; or the white of an egg answers just as well, and is more readily removed. This should be well rubbed into the roots of the hair, then washed out with tepid water and Castile soap, rinsing with clear cold water. The scalp should then be thoroughly dried by brisk rubbing with a towel. This brings a roseate glow. If too dry, a little pomade may be used. Cocoa-nut oil is the best. Purified beef-marrow might be used, but vegetable oils are the best to use, as they do not so quickly become rancid. Bear's oil and hedgehog oil are not what they are reputed to be. A proper amount of pomade is not only harmless, but useful to some scalps, especially to those with little oleaginous material to keep the hair supple and glossy. When used in excess, it becomes harmful, as it then tends to cover in dirt. A head besmeared with an excessive amount of oil is not only deleterious to the hair, but often does most serious damage to my lady's tidy, and often leaves one's mark on the wall—if not on the world. Purchase pomade or oils in small quantities, as they are liable to become rancid quickly, and this is very pernicious. Use them without scent, as this hides their rancidity. If you desire scent, a drop of eau de Cologne may be added to the oil before using it. Oil is best applied immediately after washing the hair; it penetrates quicker then.

When there is a tendency to the accumulation of scurf, a mixture daily of equal proportions of 80 per cent. alcohol and aromatic spirits of ammonia with a quantity of soft water is an excellent wash. This makes an excellent shampoo. The fixed alkalies, such as borax, salts of tartar, soda, etc., should not be used; they tend to diminish the natural elasticity and flexibility of the hair.

A wineglassful of aromatic spirits of ammonia added to a basinful of water is very cleansing and refreshing. Care should be taken that it does not get into the eyes. The shampoo as given by the barber is too rough and vigorous, and the conglomeration he puts on your head afterward is anything but beneficial. While one performs daily ablutions of the face, hands, and body, the head is generally left out. This should not be; it is as necessary to wash the scalp as any other portion of the body. The hair should be brushed daily. Too much violence must be guarded against. It should be brushed gently in the direction in which it lies. A harsh brush should be used to cleanse the scalp of dust and dandruff, and then the hair-shafts should be smoothed and polished by means of a softer brush. The scalp should receive a roseate glow. This insures quicker circulation in the follicle about the hair-papilla, and hence the growth is invigorated. Hair-tonics have the same effect upon the skin—viz., a stimulating effect upon the skin capillaries. Morning and night, before retiring, is the best time for brushing the hair. Too hard brushing tends to produce dandruff. In brushing, the object is to cleanse it from extraneous materials, such as feathers, dust, dandruff, and concrete sebaceous material, which often oozes out upon the scalp, to make it smooth, and to bring truant hairs into the right place, and set at harmony discordant filaments.

Friction polishes the hair as well as bandoline or ointment. The end we seek in building up a scanty hair crop is a proper amount of blood-supply, through friction and hair-tonics. The appended is an excellent hair-tonic:

℞ Acid. carbolic.................... ʒ ss.;
Tr. nucis vom.................... ʒ ij;
Tr. cinchonæ rubr.................... ℥ j;
Tr. cantharidis.................... ʒ ss.;
Aq. cologniensis, }
Ol. cocois, } ...... āā q. s. ad ℥ iv. M.

Apply once or twice a day to the scalp by means of a soft sponge. This will prevent the hair from falling out if it does not produce a luxuriant crop.

Fine-toothed combs should be avoided, and used only from a sportsman's point of view—"to catch game." They have a tendency to peel off the scarf-skin and leave a denuded surface below, which is apt to end in disease, pityriasis, etc. Dr. Leonard gives the following trite remarks in selecting a brush or comb:

"A hair-brush or comb with silvery bristles or teeth too sharp is not good; the scalp will be scratched by the one and the hair broken by the other. A proper brush is made up of bristles varying with the individual as regards the stiffness of them. The clusters should be evenly set into the back, equidistant from each other, so that the whole surface of the scalp to which it is applied will be touched by some one of the bristle-bunches. Then the clusters should be made up of bristles of slightly unequal length, so as to still further favor the brush in covering every part of the scalp; by this means every hair will be rubbed down on all sides, and there will be no streaks or spots of the scalp left untouched.

"A proper comb is one whose teeth are even and regular, with points not sharp but rounded. It should be held up to the light so as to detect any splitting or roughening of the teeth on the sides; for, if they are so roughened, injury to the hair through breakage of the shaft will result. Should the teeth through any cause become split, as you value your hair, the offending members should be carefully cut from the comb; the slight space on the scalp that would thus remain untouched would be of no moment. Wire brushes are nothing more than combs. They act as a stimulant to the scalp, but are not equal to a good bristle-brush."

A good supply of oxygen is necessary for the healthy growth of hair; the head should be well aired. The hat has made sad havoc with many a caput. Endeavor to go bareheaded as often as possible. When walking, lift the hat from off the head frequently, and, if the sun is not too strong, hold the hat in your hand a while. The blue-coat school-boys formerly of Christ Church, London, who wear the costume of Edward VI, go bareheaded the year round. They wear no hats in the coldest days of winter. They are remarkably healthy, and have a redundant crop of hair, which lasts them a life-time. If we must wear a hat, let it be light in texture and well ventilated from the top. One reason that women keep their hair longer than men is that their head-gear allows of better ventilation. Business men sometimes wear their hats in their office, or have a special hat which they put on. This is very injurious. The brokers of Wall Street are noted for wearing their hats indoors as well as out-doors. They are also notorious for having bald heads. This may account for it. When the head is well shorn of its locks this does not apply.

The hair should be cut regularly about once a month. Frequent cutting is generally said to make it grow quicker. Dr. Pincus, of Berlin, holds that it diminishes its growth. The ends of the hair split, and require to be cut off. Sharp scissors should be used. Some filaments grow faster than others and need to be cut back; others are impoverished, and are better brushed out or extracted. The beard should not be shaved during its development. During youth the natural growth should not be disturbed. Shaving causes the single hairs to become prematurely strong and hard. It also alters somewhat the color of the beard, giving it a tendency to turn red or brown. In middle age this does not hold. Oil and brush may be used on the beard according to inclination. I have often thought it would be well if the barber would put his razor in a weak solution of carbolic acid after shaving each customer, and thus prevent the danger of infecting them with some dread disease, barber's itch, etc. We have Scriptural authority for wearing the hair short. St. Paul says, "It is a shame for a man to wear long hair." Poets, artists, and many prominent men do not seem to heed this sacred injunction. There is an old canon extant, dating as far back as 1096 A. D., which declares that they who wear long hair shall be excluded from the church while living, and not prayed for when dead.

With regard to the ladies, their hair should be brushed rather than combed daily, its tangles carefully unraveled, its split ends cut off, and, when done up, it should be bound in as easy rolls and coils as possible. One reason for this is to allow as free ventilation as possible for the scalp; the other that you may not break the hair or strain the roots by tight tension upon them. Twisting or tight binding should be avoided. A persistent mechanical pressure on the shaft, by obstructing the flow of oleaginous fluid designed to soften it, tends to dry those portions which are beyond the ligature. Ladies should loosen their hair well every night before retiring. Crimping, the use of curling-irons, and bleaching the hair must be avoided. For invalids or those confined to bed, the hair should be oiled daily, and then combed with a coarse comb. The skin should be washed twice a week with a sponge and a little soapy water. The water may be either cold, lukewarm, or warm.

Loss of hair is generally caused by a permanent irritation. In adults, heavy head-covering or coiffures may cause this irritation. Those having weak hair should avoid pads; they injure the hair, and bring on headaches.

A daily shower-bath on the head is injurious. Lotions should not be used; most of them contain lead. They have been known to cause paralysis. Dyes are very deleterious. The least harmful are those containing iron or nitrate of silver.

Tiring brain-work, strong mental agitation, silent grief, continued disturbance of sleep, exercise a reaction on the growth of the hair. In cases where there is delicate health and a deficiency of sebaceous substance, tincture of bearberry renders the hair soft, glossy, and flexible.

22 Dartmouth Street, *February 22, 1887.*

Correspondence.

LETTER FROM LONDON.

Dr. MacAlister's Gulstonian Lectures on the Nature of Fever.—The General Medical Council.—A New Method of Treating Empyema.—Mr. Lawson Tait and the Pathology of Tubal Gestation.

London, *March 15, 1887.*

Dr. MacAlister completed his series of Gulstonian lectures on the nature of fever last week. When it was known that this was to be his subject, it was thought by many that he had been somewhat bold in selecting so particularly difficult a knot to untie, but I think it must be admitted that he has justified himself in his task, and he has certainly supplied us with matter for reflection for some time to come. Dr. MacAlister is a man of exceptional powers and education, having been senior wrangler of his year at Cambridge, and I am by no means certain that he is not the only senior wrangler who has ever taken up the profession of medicine; certainly he is the only one now living, though in Sir George Burrows and Sir George Paget we have members of the profession who in their day took very high honors in mathematics. To return, however, to the Gulstonian lectures; in the absence of an opportunity of reading them, it is, perhaps, somewhat rash to endeavor to reproduce the leading idea, but, so far as I can understand them, the lecturer's position is that in health the normal temperature is the result of a balance struck between heat loss and heat production, and that this balance may be disturbed either by fever (*i. e.*, increased heat production) or by some cause acting on the heat loss, so that in his view all pyrexia is not necessarily due to fever, as it may be the result of a diminished heat loss. If from any cause the heat loss—*thermolysis*, as he calls it—is delayed or lags behind, the temperature will rise, and it will go on rising until the heat loss reaches its normal standard again; the temperature will then remain at the high level it has reached until something happens to cause the heat loss to be in excess of the normal, when the temperature will steadily fall, and may go below the normal, until the excess of heat loss ceases to act. In this way he would explain those very high temperatures suddenly attained in hysterical women and others where no organic disease can be made out to account for the pyrexia.

An ingenious member of the staff of the "British Medical Journal" has informed us that the recent session of the General Medical Council was rather an expensive one; it cost a pound (about five dollars in your money) a minute. Certainly no one else is the better for it except the individual members thereof; not one man in a thousand could tell you what the Council is or does. Its members waste their time and our money in the most frivolous and protracted discussions, and the so-called visitations of examinations have in some instances been so extraordinarily prolonged as to suggest the idea that the visitors wanted to get as much out of the job as possible. Even when they do any business, it is often such that they had much better have left it alone; for instance, not long ago they ordered the name of a dentist to be struck off the roll because the Irish College of Surgeons had struck him off their roll for advertising. The college specially charges all its licentiates that they are not to commit the heinous crime of advertising, and it was therefore acting quite within its rights; but that ought not to have been a sufficient reason for the Council, and it is interesting to know that recently the dentist in question has gone into the law courts and obtained a mandamus against the Council to show cause why his name should not be restored to the list. I think the Council will have the greatest difficulty in showing any cause why his name should not be replaced.

At the last meeting of the Medico-chirurgical Society, Dr. Ewart brought forward his treatment of empyema by perflation. He makes a free opening and a counter-opening, and then he blows in air at the first opening and allows it to escape at the other, and he maintains that in this way he expels the pus, shreddy lymph, and bits of false membrane much more efficiently than by letting them escape more gently. Several physicians and surgeons took part in the debate, but they were none of them convinced by Dr. Ewart's arguments, nor did they even offer to give the method a trial. For my own part, I am quite sure that the tendency of the present day is to do too much in the treatment of empyema—at any rate, so far as children are concerned. The majority of those who so glibly advocate the early excision of one or more ribs can have very little idea of the benefits to be derived from tapping at the right time, and, having more than once seen recovery after a single tapping, nothing will induce me to subscribe to the doctrine that a free opening ought to be made in every case at once.

Mr. Lawson Tait has been once more to the front—this time at the Pathological Society; but, as he did not bring any specimens with him, he was not very well received. His paper was on the pathology of tubal gestation, and he might have known that he could not prove his case before such an audience without a series of specimens ready to be subjected to a most searching scrutiny. His point was that a desquamative salpingitis was the *fons et origo* of extra-uterine gestation, the normal cilia in the Fallopian tube being the best safeguard against this catastrophe, by helping the ovum down the tube, and preventing the ascent of the spermatozooids up through it. He has undertaken to demonstrate the accuracy of his views at a subsequent meeting.

Alleged Poisoning by Baked Beans.—It is stated that on Tuesday last two families, numbering in all six persons, and living in the same house in Boston, showed serious symptoms of poisoning after having eaten of canned "pork and beans." The physician who was called attributed the symptoms to the beans.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, APRIL 9, 1887.

THE SPECIFIC GRAVITY OF HUMAN BLOOD IN HEALTH.

To one whose acquaintance with the methods of determining the comparative density of liquids is limited to the ordinary resources of urinary analysis the proposal to make any clinical use of a knowledge of the specific gravity of the blood must seem preposterous and impracticable. When repeated venesections were a routine element of treatment in most grave diseases it might have been easy to obtain this knowledge by the use of no more delicate an instrument than the urometer; but, bearing in mind the not infrequent difficulty of obtaining sufficient urine for a satisfactory examination, most practitioners would be appalled by the suggestion that they ought to know the specific gravity of their patients' blood. It will be interesting information to these gentlemen that the density of the blood can be learned without a venesection.

Three years ago Professor Charles S. Roy communicated to an English society, the Physiological Society, a method of determining the specific gravity of the blood by the use of only a few drops of that liquid. For this method there are needed solutions of salt, or of some other suitable material, of different densities, corresponding to the degrees of the ordinary scale through a range wide enough to include all probable variations of the blood; also a hypodermic syringe the point of the needle of which has been cut off, and the needle itself extended backward so as to be visible through the glass barrel. The syringe having been partly filled with one of the standard solutions, a drop of blood—taken from the end of the finger, as for microscopical examination—is carefully drawn through the needle. As it emerges, if it is heavier than the solution, it will rise; if it is lighter, it will sink. In either case the same test is repeated with solutions of different density until one is found in which the drop of blood neither rises nor sinks; the specific gravity of the blood is the same as that of this standard solution. Professor Roy also stated that it was already known that the specific gravity of the blood of men was somewhat higher than that of women—from 1·056 to 1·059 in the former, and from 1·051 to 1·055 in the latter; that the blood of children was lighter than that of adults; and that the density of the blood was greater in the morning than in the evening.

In the February number of the "Journal of Physiology," Mr. E. Lloyd Jones, of the Cambridge Pathological Laboratory, recounts some observations on the same subject. Following the principles pointed out by Professor Roy, he has made some changes in the details of the method. He uses standard mixtures of glycerin and water, to which, in order to prevent fermentation, a little thymol or corrosive sublimate is added. In using the syringe it was found that, the inner surface of the needle having been moistened by the passage of the solution through it, the drop of blood became somewhat changed by contact with this moisture when it was drawn through, and that an element of inaccuracy was thus introduced. To avoid this, Mr. Jones uses a fine glass pipette the end of which has been bent at a right angle. The observer sucks a drop of blood into this pipette, and then, having immersed the end of the pipette in a small bottle of one of the standard solutions, holding the bent extremity in a horizontal position, carefully blows out the drop of blood. By noting whether it rises or sinks in the solution he learns whether it is lighter or heavier than the solution used. This is not, as might be supposed, a tedious process; on the contrary, it is found that practice enables one to estimate approximately, from the appearance of an individual, the specific gravity of his blood. Mr. Jones himself determined it in sixty-two persons in the course of an hour and a half.

The investigations thus far published relate only to persons in ordinary health. Observations were made on three hundred and sixty-two individuals of both sexes and of all ages. It was found that the specific gravity of the blood was highest, 1·066, at birth. It is lowest between the ages of two weeks and two years—1·048 in boys, and 1·050 in girls. After puberty, the highest point for males is reached between the ages of thirty-five and forty-five (1·0585); for females, between sixty-five and seventy-five (1·0545). During middle life, it is constantly higher in men than in women. It is low in women during the child-bearing period, it is lower in those who are pregnant than in those who are not, and immediately after labor it falls still lower. The taking of food generally causes a fall, particularly if much water is taken at the same time. If, however, alcoholic drinks are taken, there is generally a rise. There is also a rise during sleep. Gentle exercise is followed by a fall; after more prolonged exercise, especially if it is accompanied by perspiration, there is a rise. Passive congestion of a part causes an increase in the density of the blood of that part. Finally, the specific gravity of the blood is not the same in different parts of the body, but is higher, for instance, in the shin than in the fingers or the toes.

Although it is possible that a knowledge of the alterations in the density of the blood in various diseases may at some future time be of interest in helping to explain the action of remedies which cause rapid changes in the contents of the blood-vessels, the conclusions arrived at by Mr. Jones furnish very little reason for expecting that the determination of the specific gravity of the blood of individual patients will soon come to be an important factor in clinical medicine.

MINOR PARAGRAPHS.

THE ASHES AND GARBAGE NUISANCE.

We are glad to observe the spirit shown by the New York Ladies' Health Protective Association in urging material reforms of our detestable methods of cleaning the streets and removing house refuse. Among the suggestions recently made in a communication from the association to the mayor are the appropriation of more money to the work of cleaning the streets, the establishment of a commission to manage it, and the appointment of a number of ladies as inspectors. The arguments by which these suggestions are supported seem to us well founded, and we hope the ladies will carry their points. In regard to the removal of the refuse of houses, however, their recommendations might have been more radical. To do away with the ash-cloud nuisance, they propose the use of closed carts and receptacles covered at the top and having a movable bottom. A more effective plan, we think, would be to compel every household to maintain two closed vessels, each of sufficient capacity to hold twenty-four hours' refuse; both to be marked, and the carter to leave one empty when he takes the other away full, all empty vessels to be cleansed and disinfected before they are returned to the householder. Meantime, an intermission of two nights in the system of collection to which we alluded last week must have served to imbue the ordinary citizen with a becoming sense of the enormity of his offense in always being ready to tolerate a nuisance that affects only his neighbors, as the president of the Board of Health put it.

ST. FRANCIS'S HOSPITAL, JERSEY CITY.

It is apparent, from the "Fourteenth Regular Report of the Medical and Surgical Staff" for the year 1886, that the work done in St. Francis's Hospital is not only exceedingly creditable to the staff, but an important factor in alleviating the sufferings of the poor of Jersey City and the outlying towns. The extent to which Jersey City serves as the terminal point of great railway lines leading to New York is of itself enough to call for provisions somewhat unusual, considering the population of the city, for emergency work in surgery. The machinery of St. Francis's Hospital must be said to go far toward meeting this demand. In addition, it is announced that during the year two special departments, those of gynæcology and neurology, were organized, and that further special departments are contemplated. To enable the Sisters of the Poor of St. Francis, under whose administration the hospital is carried on, to widen the scope of its beneficent work, funds are needed, the report states to add a wing to the present building, many deserving applicants being now necessarily turned away simply for lack of space in which to place beds. It is to be hoped that the people of Jersey City will not prove backward in contributing the money needed for this praiseworthy purpose.

A VENEREAL REVOLT.

The French newspapers are cited by the "Progrès médical" as having announced what is termed a revolt of the girls under treatment at the Antiquaille in Lyons. Our contemporary adds, in effect, that, although the service is excellent, many reforms having been introduced by Dr. Horand in particular, the fact remains that the girls in question are made to feel as if they were offenders rather than patients, and that the fact of their growing restive under this state of things is but a natural exhibition of self-respect; and it hints that there is really no good reason why venereal patients should be made to endure any indignity, even that of being classed apart, as a punishment for their course of life—a sentiment in which we entirely concur.

THE NOMENCLATURE OF ABDOMINAL OPERATIONS.

Last week we spoke of certain suggestions made by Mr. H. A. Reeves, in the "British Medical Journal," as to the propriety of the terms now applied to abdominal operations, and of his proposal to substitute the hybrid word "ventrotomy" for *gastrotomy* and *laparotomy*. In the following issue of our contemporary, Mr. N. Davies-Colley proposes a word which seems to answer all of Mr. Reeves's requirements, and at the same time to be free from the taint of mongrelism. The word is "cœliotomy" (from *κοιλία*, the abdomen, and *τέμνειν*, to cut). Its proposer remarks that its root is already familiar in the term *cœliac axis*.

A NEW CANADIAN JOURNAL.

The second number of "La Gazette médicale de Montréal," a monthly journal of forty-eight octavo pages, has reached us. It is dated March, 1887. The new journal is edited under the direction of Professor Paquet, Professor Hingston, and Professor Desjardins, the *secrétaire de la rédaction* being Dr. Beausoleil. The number contains reports of a lecture on alcoholism, by Professor Paquet, and another on infantile pneumonia, by Dr. Asselin, and these are followed by a judicious collection of abstracts and items. The appearance of the "Gazette" is very creditable.

A PASTEUR INSTITUTE FOR HAVANA.

"Las Novedades," a Spanish newspaper published in New York, has news from Cuba of the return of a commission, consisting of Dr. Tamayo, Dr. Vidósola, and Dr. Albarrán, from Paris, whither it had been sent, as the result of a movement started by the "Crónica Médico-quirúrgica de la Habana," to study M. Pasteur's system of anti rabic inoculation. It is added that the Havana laboratory will soon be in readiness to carry out the system, but that for the present, owing to the lack of proper virus, persons bitten by rabid animals will be sent to Paris.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 5, 1887:

DISEASES.	Week ending Mar. 29.		Week ending Apr. 5.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	6	4	11	5
Scarlet fever	40	11	59	11
Cerebro-spinal meningitis	7	7	3	2
Measles	113	18	111	15
Diphtheria	90	46	77	31
Small-pox	4	4	10	0

The Massachusetts Medical Society.—The Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Branch will meet in Boston on Wednesday, the 13th inst. The programme includes a paper by Dr. Henry Jackson, "A Case of Acute Infectious Universal Myositis," the discussion of which is to be opened by Dr. R. H. Fitz; "Four Hospital Cases: 1. Tetany. 2. Hæmophilia. 3. Cirrhosis of the Liver. 4. Peritonitis, with Perforation of the Abdominal Wall," by Dr. F. C. Shattuck, the discussion to be opened by Dr. F. Minot; and "A Case of Idiopathic Multiple Neuritis," by Dr. C. F. Folsom, the discussion to be opened by Dr. S. G. Webber and Dr. J. J. Putnam.

The Omaha Medical College held its commencement exercises on the 24th ot March. The graduating class numbered seven, of whom one was from the State of Maine and another from Washington Territory. The esteemed correspondent who sends us the foregoing information adds: "It is often intimated in New York and other portions of the East that simply to apply for graduation in one of the western medical schools is to be assured of a diploma. That this is not, at least in every case, true is evidenced by the fact that, of those presenting themselves for graduation who had fulfilled the requirements of the college, thirty per cent. failed to pass the examinations, and were not graduated. We considered the class one of at least average ability."

Professor Politzer.—The "Lancet" states that Professor Adam Politzer's old pupils and friends have arranged to present him with his portrait as a memento of his great services to aural surgery during the twenty-five years he has been teaching at the University of Vienna, the presentation to take place at the Easter meeting of the Otological Association, in Vienna.

The German Emperor's Physician, Dr. von Lauer, according to the "Lancet," received a gift of 150,000 marks and the title of "Excellency" on the occasion of the Emperor's eightieth birthday, and is said to have received a further gift of 300,000 marks on the 22d of March, the Emperor's ninetieth birthday. As the "Lancet" remarks, it is pleasing to note that at a period of national rejoicing Dr. von Lauer's skill and care have been neither unnoticed nor unrewarded.

The Gouverneur Hospital.—We learn that the Commissioners of Public Charities and Correction have recently appointed Dr. H. M. Silver one of the visiting surgeons to the hospital.

The Earthquake in Europe, according to one of the London newspapers, has been followed by an outbreak of trismus among the injured at Barardo, which is attributed to the inclement weather to which they have been exposed.

Society Meetings for the Coming Week:

MONDAY, *April 11th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Lenox Medical and Surgical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, *April 12th:* New York Medical Union (private); Medical Societies of the Counties of Jefferson (quarterly—Watertown), Oneida (quarterly—Utica), Ontario (quarterly), Rensselaer and Tioga (quarterly—Owego), N. Y.; Newark (private) and Trenton (private), N. J., Medical Associations; Medical Societies of the Counties of Bergen (annual—Hackensack) and Cumberland (annual), N. J.; Fairfield County, Conn., Medical Association (annual).

WEDNESDAY, *April 13th:* Medical Society of the State of North Carolina (Charlotte); New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Society of the County of Albany, N. Y.; Tri-States Medical Association (Port Jervis); Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society (conversational).

THURSDAY, *April 14th:* New York Laryngological Society; Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Societies of the Counties of Cayuga and Fulton (quarterly), N. Y.; New London, Conn., Medical Society (annual); South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, *April 15th:* Chicago Gynæcological Society.

SATURDAY, *April 16th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

OBITUARY NOTES.

Dr. Ferdinand Arlt, emeritus professor of ophthalmology in the University of Vienna, is reported by our European exchanges to have died on the 7th of March, at the age of seventy-five. He will be remembered as the first to have acted on the idea of testing the visual power with appliances of precision, as well as for his text-book on diseases of the eye.

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Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of March 23, 1887.

The President, Dr. CHARLES MCBURNEY, in the Chair.

Excision of the Elbow.—Dr. WYETH presented a boy, fourteen years old, whose elbow he had excised a few weeks before. He entered Mount Sinai Hospital in January, having but slight power of motion in the left elbow. Exsection was performed, one inch of the os brachii being removed, together with the articular surface of the radius and ulna. The olecranon was partially preserved, in order to maintain the attachment of the triceps. A movable splint was applied, and at the expiration of ten days passive motion was practiced daily. A rapid recovery followed. The patient was presented in order to show the fair degree of mobility obtained at this stage of the after-treatment.

Dr. GERSTER said that he had repeatedly used the apparatus, but had not been entirely satisfied with the result, since flexion could be carried only to 90°, because the posterior part of the capsule was too short. In reply to a question from Dr. Wyeth as to whether the new capsule was not rendered more lax, he said that, on the contrary, he employed this method of treatment in order to correct too great laxity. By reason of the movable hinge the bones were compelled to move backward upon the sawn surface of the os brachii; otherwise they would tend to be attached near its anterior edge.

Dr. BRIDDON asked if the object aimed at was not to restore the fulcrum as it originally existed.

Dr. GERSTER said that it was. The apparatus, he explained, was not originally devised by Dr. Lange, but by Madelung some time before; Dr. Lange had only added the sliding fulcrum.

Dr. SANDS remarked that theoretically all excised joints should heal without suppuration, but such results were certainly exceptional. The result in the present instance seemed to be fairly good. Where there was no suppuration, healing occurred promptly, as in a patient whom he had exhibited before the society, in whose case he had performed excision for the relief of ankylosis; healing was complete at the end of two weeks. It would be useful, the speaker thought, to note in the case presented just how much had been gained by the treatment. While rotation appeared to be good, flexion and extension were both limited, the angle between the arm and the forearm being 90° in the position of extreme flexion, and about 130° in that of extreme extension. It seemed to him also that the impediments to further motion were of a bony character, which would not be removed by passive motion.

Dr. WYETH admitted that Dr. Sands's observation with regard to the limitation of motion was just, as it applied to extension of the forearm. He had purposely left a little of the sigmoid surface in this case, in order to preserve the insertion of the triceps muscle; the arrest of extension was undoubtedly due to this bony projection. He added that the boy had passed from under his observation three weeks after the operation (although he did not leave the hospital until three weeks later), so that he (Dr. Wyeth) did not have an opportunity to practice passive motion of the joint. He intended to see the patient at frequent intervals, in order to manipulate it. If he could gain no more extension than that at present enjoyed, he would be satisfied. The object of further treatment would be to improve the flexion.

Dr. POORE said that he excised an elbow more than a year before, and the patient returned with complete ankylosis. He repeated the operation, and healing occurred without suppuration, although pus had been present on the first occasion. He thought there was always more or less suppuration after the first operation.

Dr. WYETH remarked that there had been very little suppuration in the case under discussion. Strips of tin were applied at first, but these were removed, and the movable splint was worn after ten days.

Dr. BRIDDON thought that the restricted motion observed in these cases was often due to the surgeon's anxiety to save as much of the bone as he could. He cited in illustration a case in which he had freely excised an elbow joint in a woman, and, as a result, the arm appeared to be little better than a flail. Afterward an angular splint was applied, and the patient could use the limb quite well. She thought that she could not do without the splint, until it was removed for a time in order that it might be repaired, when she found that she could dispense with it. She was now able to perform her household work without any trouble. The speaker had within a year excised the elbows of two children at the Presbyterian Hospital, whose ages were about the same as that of Dr. Wyeth's patient. In one case tuberculous arthritis was present, and there was a long sinus leading into the joint. A bone drain was introduced, and this was filled with iodoform. There was no suppuration whatever, and the patient was well in seven weeks. The second case was one of badly united fracture, and healing was perfect at the end of four weeks. The patient had been repeatedly examined since the operation, and the motions of the joint were entirely satisfactory.

In answer to a question from the president, Dr. WYETH said that, by employing passive motion, he expected to produce gradual stretching of the contracted ligaments. The limitation of flexion in the case presented was probably due to this condition, but extension was prevented by the contact of bony surfaces.

Dr. GERSTER's experience in the fifteen or sixteen excisions which he had performed had been this: that more personal attention was needed on the part of the surgeon in cases where only small portions of bone were removed, especially in children. It was necessary to employ passive motion very carefully, or serious harm might be done. Active motion, intelligently directed, and massage were the agents to be used, the latter being especially valuable when a small amount of bone had been removed. The obstacles to motion were, in the first place, the swelling of the parts, and, in the second place, the pain and resistance on the part of the patient. Whenever, the speaker added, he had not attended personally to the details of after-treatment, the result had been unsatisfactory. Suppuration was not such an important element as regarded the final result; better results sometimes followed in cases that did not heal by the first intention, because the surgeon gave more attention to the case than when healing was uninterrupted. The speaker had never had a case of ankylosis after excision, and in several instances there had not been a drop of pus.

Dr. SANDS contended that it was important to avoid suppuration in cases of partial excision. He cited the case of a patient presented to the society by Dr. Hall, in whom he (Dr. Sands) had excised only a portion of the olecranon for limited tuberculous disease, the whole hinge-joint being preserved. There was an entire absence of suppuration, and motion was almost perfect. The speaker could hardly imagine how suppuration could occur in joints thus excised, in which the opposed surfaces were so intimately related, without resulting in ankylosis, or, at least, some limitation of motion. When a large amount of bone was removed, it did not make so much difference.

Dr. GERSTER accepted Dr. Sands's suggestion with regard to the class of cases in which it was important to entirely avoid suppuration. The more nearly an excision approached an arthrotomy, the more necessary was it to secure absence of suppuration. The speaker acknowledged that he would have expressed himself more exactly by using the term *septic* suppuration, meaning a suppurative process that resulted in extensive destruction of the tissues belonging to a joint.

Aneurysms treated by the Introduction of Catgut, or of Wire with Electricity.—Dr. ROBERT ABBE read the following paper: The domain of cases upon which the surgeon may operate, owing to newly adopted principles, is enlarging year by year, and just in that proportion the number of "hopeless" cases diminishes. The most superficial observer will see a growing disposition to interfere with many varieties of infirmities for which in the past active treatment has been discouraged by all surgical authorities. One is led from time to time to review such maladies, and ask whether advanced methods will yet allow us to touch them. As the miner has often found a fortune in the discarded ores of silver mines when worked over by a new process, so now some of the forbidden cases of twenty years ago are fairly met by justifiable new procedures. In this spirit of inquiry, I venture to open the question of the value of interference with a small class of aneurysms, the treatment of which has heretofore been considered useless.

This class is that of aneurysms springing from the aorta or its greater branches, and not amenable to the ligature nor relieved by medicine, diet, or rest. These are so common that we all see them from time to time. They run a steady downward course, interrupted, happily, in some cases by a temporary clotting, but soon advancing again, leaping the barriers of bone and cartilage until the thinned walls give fatal pressure effects on veins, nerves, or trachea, or sudden rupture ends the patient's misery.

Taking our guide from Nature's attempt at repair by the two methods of deposition of firm clot, or by thickening the sac through hypertrophic or inflammatory changes, we find the most promising to be that of inducing clot within the sac. Practically, accumulated experience shows that coagulation *will* take place upon certain foreign substances introduced into the current. Wire is especially favorable, either silver, iron, or steel. This can be sterilized by preliminary boiling in carbolic solution. Twelve cases of the use of wire have now been reported, to which I am able to add two more. The first attempt was by Mr. C. H. Moore, of Middlesex Hospital, in 1864, of which I will speak later. *Moore's method* consists merely in the introduction of wire. Of the cases now on record, the most brilliant result was obtained in Loreta's well-known case of last year. The outcome of the others has not been curative, though seeming to look in the right direction.

Last year Mr. Richard Barwell practiced a modification of Moore's method by introducing ten feet of steel wire into an aneurysmal sac, and passing a current of electricity through it sufficiently strong to get electrolytic action and induce a coagulum by quick deposit.

Thus he substituted a long wire coiled in the blood current for the short needle point of so-called electro-puncture, which latter alone has, in many hands, been of unquestionable service in ameliorating the condition of aneurysm cases in the last stage. Mr. Barwell's patient was a man with large aneurysm of the aortic arch, apparently a hopeless case, and associated with serious lung trouble. A fine insulated trocar served to allow the steel wire to pass. The positive pole was attached to this, while a negative of spongiopiline spread over the back. A current of ten milliampères was continued an hour and ten minutes. The patient had no pain or inconvenience. The tumor gave no sign of immediate improvement, but in twelve hours "the man appeared much better, the tumor was more solid, and the pulsation more distant." Four days later a tumor appeared at the other side of the neck, which had appeared two years before and then disappeared—evidently an extension of the sac in that direction. One week later the man died of his pulmonary trouble. A post-mortem was obtained, and of the clot formed in the aneurysm Mr. Barwell says: "The wide coils of wire are surrounded by thick, firm, colorless clot, which in many places binds the wire to the sac walls, thus strengthening them and rendering rupture hardly possible where the wire had penetrated. In the secondary sac this had not formed." Barwell commends the method for large internal aneurysms.

Soon after the publication of Barwell's case, Dr. J. West Roosevelt, of this city, had an opportunity to try the method on a case of aggravated aortic aneurysm threatening death. He has kindly offered me the case to report in this connection.

The patient was a man of twenty-five years, with a syphilitic history. In November, 1885, he had begun to notice a dry cough. Some weeks later dyspnœa and dysphagia had ensued and pain had come in the right pectoral region and axilla, occasionally extending down the right arm or into the back near the scapula. At that time also he had noticed a pulsating tumor in front of the chest at the right of the sternum. His dyspnœa had been great when he lay on the left side or back. He had been disabled from work for four months, yet he was in fair flesh. The pulsating tumor involved the four upper ribs, near the sternum, and gave a double bruit. He was given iodide of potassium, kept at rest, and somewhat under anodynes for two weeks with slight ease from pain, but the tumor continued to enlarge. On the 4th of August, Dr. Roosevelt placed the man on his back and inserted an insulated short aspirator needle into the tumor. When the blood trickled out, he passed about seventy-five yards of fine steel piano-wire No. "00." The patient experienced some weakness, pallor, and pain from the position on his back, to which he was unaccustomed. The wire was connected with one pole of a constant battery, and a large wet rheophore placed under the right shoulder. Four to eight cells of an ordinary galvanic battery were used, measuring about twenty-five milliampères. It gave him no pain, and was continued a half hour. The tumor still pulsated. The patient was kept quiet another half hour and then put to bed. He had no pain subsequently from the operation. On the following night he required morphine for insomnia. Next day the tumor did not pulsate so strongly, and he had some pain and vertigo. On the third day the tumor was less painful but still pulsated. His breathing was not so comfortable, and in the evening his temperature rose to 100·4° F., but fell to normal in the morning and remained so afterward. On the fourth day dyspnœa and slight cyanosis were showing themselves. On the seventh he was better than before the operation, had less pain and dyspnœa. By the tenth day the tumor was much less painful, pulsation markedly diminished, and he could breathe easily lying on his back or left side, which formerly he could not do. During the third week he could swallow and breathe with greater ease, and the tumor felt harder. At the beginning of the fourth week he began to vomit and complain of headache. His iodide of potassium was therefore stopped. On the twenty-second day a painful dark-colored spot appeared on one toe and the man appeared badly. On the twenty-third day he died. No autopsy could be obtained.

In October last I had an opportunity to repeat this operation in the following case:

A man, forty-six years of age, free from specific history, was referred to me by Dr. Naughton for treatment of a large pulsating tumor of the root of the neck on the right side. It had been observed as a very small swelling above the clavicle not more than a year before, and had steadily enlarged until now it filled the supra-clavicular space, extending backward to the scapula. The greater growth of late had been back of the middle plane of the neck. A loud bruit could be heard over its entire surface. Its pulsation lifted the shoulder at every beat. Neuralgic pain of the right shoulder and arm had been coming on for several weeks, and now pressure on the brachial plexus had caused paralysis of the deltoid and triceps muscles. The right arm and right half of the face remained dry, while the opposite side was in profuse perspiration. There was slight hoarseness. The right pupil was smaller than the left and ptosis of this eye had developed. The axillary, brachial, and radial pulses were small. A diagnosis of dissecting aneurysm of the subclavian was made.

After consultation (Dr. Sands, Dr. Weir, Dr. Peters, Dr. McBurney, Dr. Bangs, Dr. Lange, and Dr. Bull), it was decided that the condition would not be checked even by ligature of the carotid with shoulder amputation; and being left with a patient whose pain was only eased by frequent hypodermics of morphine, while the growth of the aneurysm could be seen to advance every day, I decided to resort to Barwell's method, to lengthen his life, and perhaps lessen pain. The oval cavity of the tumor was estimated to measure four inches by five.

After three weeks' observation under iodide of potassium, I decided to introduce catgut before wire. I operated on November 19th. No anæsthetic. No. 2 aspirator-needle pierced the front of the sac, and the blood spurted two or three inches. No. 1 catgut, taken fresh from juniper-oil and drawn through a damp sublimate towel, was easily though slowly pushed into the sac. It was best fed by short grasps of the thumb forceps. One hundred feet of it were thus introduced, occupying an hour. The patient lost two or three ounces of blood only, and had no pain nor discomfort whatever. There was a slight rise of temperature to 101° F. on the following day, the pulse remaining unchanged. The tumor was a little warmer than before. On the second day the patient continued feeling well. The outer third of the sac had very decidedly hardened; the remainder pulsated as before. An ice-bag was ordered applied. The radial and brachial pulses could not be felt. The hand continued warm. On the third day his temperature rose to 102°, though he felt otherwise fully as well as before the operation. After that his temperature declined rapidly to normal. The tumor, however, grew decidedly backward and upward during the week, and lifted the scapula, as shown in the photograph. On the eighth day the dissection seemed much more rapid, and his hoarseness amounted to aphonia. On the ninth, Dr. Roosevelt very kindly assisted me, and I introduced, through an insulated aspirator-needle, one hundred and fifty feet of fine steel wire, sterilized by boiling in carbolic-acid solution. A copper plate a foot square, covered with wet cotton, was placed over his back, connected with the negative pole, and the positive attached to the end of the wire. A current was measured by Dr. Roosevelt up to fifty milliampères, which was the limit of the register. This required but fifteen cells. Subsequently the entire thirty-six cells of the galvano-faradic battery were applied. The patient experienced no pain or discomfort. His pulse, which had been 110, rose only ten beats during the process. The current was continued for an hour, the latter part of the time reversed, so as to bring the negative pole within. He was rather exhilarated than otherwise, and when removed to bed would not have known that any operation had been done. The tumor still pulsated when we ended. On the following day I could perceive increased firmness in the walls, though the pulsations continued. Subjectively the patient felt rather better, and I had some hopes of the outcome, when on the second evening he suddenly had a rupture of the sac into the trachea, and expired.

It was impossible to obtain an autopsy. Although it is to be regretted that these cases could not be followed to the post-mortem table, there are yet some points of value in each that may be added to the study of the subject.

It will be seen that both were utterly hopeless cases, and while we can not assert that life was prolonged, it was not shortened by operation. In my own case the man was approaching his end, and it was his only hope. The question may be asked whether the rupture of the sac into the trachea was hastened by the wire pressure inside.

I judge not, for the tracheal pressure that preceded the rupture had been progressively getting worse, as shown by the hoarseness increasing for a month, showing that it naturally was making its way toward the trachea. I find three other cases of rupture following active treatment. One of Churton's last year, in which he had used electro-puncture without wire, and in twenty minutes fatal hæmorrhage from the trachea ensued. The other was Domville's case of aortic aneurysm, in which he put fourteen inches of iron wire into a sac, and when, four weeks later, the man died of sudden rupture into the pleura, it was found that no wire was near the perforation. The same in Dr. Ransohoff's case, reported at the last meeting of the American Medical Association. Over ten feet of silver wire were placed within the sac in two sittings, three weeks apart. Death suddenly occurred one week after the last, from rupture into the pleura, but autopsy showed no wire near the place of rupture.

Whether the duration of life was longer or shorter owing to the treatment by wire insertion, is pure speculation. My own impression is, from studying all the cases, that without exception every one was in a desperate state before operation; some even threatened dissolution. My own lived thirty-six hours only before rupture. Most of them lived several weeks, and Loreta's ninety-two days, having apparently been restored to health. In one reported by Mr. W. Cayley, the large aneurysm at the root of the neck became solid, and the patient lived eighty-six days after some forty feet of steel wire were introduced. The thoracic portion of this aneurysm extended, and Mr. Gould subsequently put in thirty-five feet more, to solidify, if possible, the portion that was giving serious dyspnœa. No disturbance followed, nor was the patient relieved.

As regards the chances of emboli from the wire giving trouble, I find but two of the fifteen cases where wire was introduced that caused such an accident. Mr. Moore's case, the first on record, showed post-mortem suppurating foci in the kidneys, with death on the fifth day. As the case occurred in 1864, it is quite as probable these were septic as well as embolic. No case that has since been done has shown septic infection, due to the care now exercised in sterilizing the wire.

In a note to the "British Medical Journal" in May, 1885, by Dr. Maclean, who witnessed Mr. Moore's operation twenty-three years ago, and who saw the organs and aneurysm after the autopsy, he says "the immediate cause of death was inflammation of the sac and pericardium," and also he recalls "the innumerable clots in the fresh preparation of varying consistence hanging from the wires, ready to drop into the blood, and emboli exactly like them were found in the arteries of the organs dissected to show them."

In Dr. Roosevelt's case a dark-colored and painful spot appeared on one toe on the twenty-sixth day.

The absence of other reported accidents by embolism shows that it is not more to be feared from wires than from the untreated walls of an aneurysm.

Having shown that Nature will tolerate considerable quantities of wire for periods of eighty-six and ninety-two days, and therefore would probably do so indefinitely in favorable cases, and that it has never been known to induce suppuration when aseptic, it is now of importance to see how much solidification is really brought about by the foreign substance. Of the sixteen cases of wire insertion, eight were followed to autopsy. Bacelli's third case with seven watch-springs, each about twenty inches long, was the only one which failed to show coagulation. The patient lived only two days. His second case with these springs lived ten days, and excellent clots were found round the metal. His first case with one spring lived two months, was improved, and presumably the wire was imbedded. In Domville's case fourteen inches of iron wire were found imbedded in firm clot two weeks after introduction into an aortic aneurysm, the patient dying of ruptured sac. Dr. Ransohoff reported last year a case of large aneurysm at the root of the neck, into which he put at two sittings ninety-eight and ninety-six inches of silver wire. The case was hopeless from the first. However, he survived over four weeks. Autopsy showed the "coils of wire imbedded in recent and old clot."

In Mr. Cayley's case of large sacculated aneurysm of the aortic arch the patient survived the introduction of seventy-five feet of steel wire eighty-six days, and the "entire upper portion of the sac was filled with clot in which the wire was imbedded."

In Barwell's case, already quoted, the electricity and wire combined had caused the latter to become "surrounded by thick, firm, colorless clot which in many places bound the wire to the sac walls, thus strengthening them."

In Professor Loreta's famous case, reported last summer, the post-mortem revelations were very gratifying. The patient was a sailor, who had an aneurysm of the abdominal aorta the size of a small fœtal head. Laparotomy showed it to be matted to the viscera, stomach, etc., from which it was separated. Six feet and a half of silvered copper wire were introduced through a fine cannula, the point of perforation touched with pure carbolic acid, and the wound closed. He made an excellent recovery. Twenty days later the pulsation had ceased, and by the seventieth day he resumed his work. On the ninety-second day the aorta ruptured at a point where the sac sprang from it. Autopsy showed that the sac had shrunk to the size of a walnut, and was completely filled with coagula of organized fibrin. The wire was found unaltered and rolled up into a globular mass within the sac.

Dr. Lange reported a case to our society quite recently in which he obtained an autopsy. He had inserted thirty feet of wire into an abdominal aneurysm. The patient survived twelve days. The specimen showed the wire imbedded to a large extent in firm clots against the wall, but free in some places in the current.

It is reasonable to believe that it would always be buried in laminated clot if left a while. As bearing upon this point I would note that Schrötter, of Vienna, two years ago inserted twenty inches of Florence silk into a large aneurysm, and four days afterward thirty inches more. The patient died in the third week of pulmonary œdema. Autopsy showed the silk in coils entirely inclosed in laminated clot. In Bryant's case of popliteal aneurysm the horse-hair was enveloped, to use his words, in "huge laminated clots."

The inflammation of the sac wall probably acts no mean part in aiding solidification. I feel convinced that it is desirable to provoke some inflammation. In my patient before reported there was a decided increase of local temperature in the outer part of the sac, with slight œdema of the subcutaneous tissue and hardening of the sac. This followed the second day after one hundred feet of catgut had been introduced. The continuous application of an ice-bag entirely controlled the inflammatory action. In Schrötter's case of silk introduction it is reported that "intense œdema appeared in the vicinity of the sac from its inflammation," the virtue of which was apparent in the imbedding of the silk found three weeks later at autopsy.

Finally, I would review the part that electricity may play in the combined treatment. We have but three cases where the sac was subjected to electrolytic action through an extensive wire coil within it. Barwell used a current of 10 milliampères, Dr. Roosevelt about 25, and I 100. The patients experienced no pain or discomfort whatever. The time of continuance was from half an hour to an hour and ten minutes. In my case the current was reversed during the latter half-hour, so as to bring the negative pole within. No change in the patient's condition could be perceived, and no gas could be discovered in the sac, as in some cases of electro-puncture where it became tympanitic for a short time without harm.

The promising statements of Ciniselli and others about the value of electrolysis in aneurysms have seemed to many delusive. The small amount of coagulation that takes place round a fine needle is, perhaps, of less value than the irritation of the sac. Therefore it seems reasonable to my mind that if we tangle a mass of fine wire so that it will reach every part of the sac, and then cause a deposition of clot on it by electrolysis, we do more justice to the method. Ciniselli claims that no cure of aneurysms takes place after electrolysis without inflammation of the sac. Occasionally a case succeeds, as one reported by Dr. Simpson, of Manchester, in 1881, where threatened rupture of aortic aneurysm that had eroded the rib continued well five years after repeated electro-puncture.

As regards the strength of the current to be applied, experience only will say. De Watteville thinks 20 or 30 milliampères for each needle; others, 5 or 10. But when a large wire surface transmits the current it is probable that 50 or 100 are not too strong.

Conclusions.—It is evident we need many accurate scientific observations before we can speak definitely of the value of Barwell's method. One may say that Moore's treatment, by simply placing wire in the sac, has not yet been tried in any case that was not already hopeless and in the last days of life. The same may be said of Barwell's. Yet the evidence warrants a continuance of its trial. It is not a coincidence that cases show a decided amelioration of symptoms. There is proved to be a deposition of clot, sometimes abundant to cure, as in Loreta's case. The fine wire is so elastic that it may be compressed by the aneurysmal contraction into a small fraction of its bulk without exciting much expansile reaction against the wall, and it is probable that an hour's electrolysis so far weakens it, as well as roughens its surface, that it is quite prepared for deposition of clot and shrinkage of the sac. The operation is not in itself perilous; no deaths have occurred from its performance. The subsequent much-desired inflammation of the sac has been easily kept under control by ice-bags in every case. The principle does not seem faulty, and its application should not be abandoned or condemned until much more extended trial has been given it.

Cases.

Moore, "Med. Chir. Trans.," xlvii, p. 129.

Murray, "Brit. Med. Jour.," vol. i, 1872, p. 596.

Bacelli, "Bull. gén. de thérapie," 1878, vol. xcv, p. 262.

Bacelli, "Brit. Med. Jour.," 1885, vol. i, p. 1256.

Domville, "Ref. Handbook," p. 213.

Rubio, Madrid, "Brit. Med. Jour.," 1886, vol. i, p. 395.

Loreta, "Mem. Roy. Ac. Bologna," vol. vi, sec. iv, "Brit. Med. Jour.," 1885.

Ransohoff, "Jour. Am. Med. Assoc.," 1886, p. 481.

Barwell, "Brit. Med. Jour.," 1886, ii, 675.

Cayley, "Brit. Med. Jour.," 1886, i, p. 395.

Lange, "Ph. M. News," 1886, p. 582.

Dr. **Peters** asked the reader if he had met with a record of Dr. Buck's case, in which wire or horse-hair was introduced into the sac.

Dr. **Abbe** replied that there were several recorded cases in which horse-hair and other foreign bodies had been employed, but that his paper dealt exclusively with the use of wire and catgut.

Dr. **Weir** asked whether it was desirable to use electricity so long if the wire was really disintegrated. The reader did not think that harm could result.

Dr. **Wyeth** did not see what additional advantage was obtained by passing a galvanic current through the wire after it had been introduced, since experiments on animals had shown that the mere presence of a foreign body in a blood-vessel was sufficient. As he understood the operation, its purpose should be to favor *slow*, not *rapid*, coagulation, since the latter process was fraught with more danger than gradual solidification of the tumor.

Dr. **Sands** called attention to the fact that the idea that the rapid coagulation of the blood in an aneurysm was injurious had been abandoned. There were many cases on record in which large aneurysms had been cured by total compression, continued for not more than an hour or an hour and a half, the coagulation being perfect, and the cure permanent.

Dr. **Wyeth** replied that about nine years before he had made a special study of large aneurysms at the root of the neck and in the arch of the aorta, and had published a paper on the subject. At that time, after a careful review of the evidence on the subject, he had reached the conclusion that rapid coagulation of the blood within the sac was more apt to be followed by disastrous consequences.

Dr. **Weir** thought that the brilliant results obtained with Esmarch's method of treatment showed that rapid coagulation was not dangerous. The best results had been obtained in cases of sacculated aneurysms. He had been struck, while examining Dr. Lange's specimen, with the fact that many of the loops of wire remained free within the cavity of the sac, were quite bright, and had no clot adherent to them. The speaker thought that there was something in the idea advanced by the reader, that the galvanic current served to roughen the surface of the wire, and thus favored the deposition of clot.

Dr. **Gerster** said that he had practiced the method described by the reader in one instance. The patient was an undertaker, forty-five years of age, who entered the German Hospital early in January with a large dissecting aneurysm which involved the arch of the aorta and protruded behind the sternum and clavicle, interfering with respiration. Shooting pains in the occipital region formed a prominent symptom in the case, while hoarseness was also marked. Although the patient's physician affirmed that the tumor had first appeared only three weeks before, pains in the head and in the nape of the neck, supposed to be of a rheumatic character, had been present for a year. The speaker inserted a cannula into the sac, and introduced through it thirty-six feet of thoroughly disinfected steel wire, similar to that used by Dr. Abbe, care being taken not to push in the cannula beyond the middle of the sac. It was noticed that each time that a fresh portion of wire was thrust in there was a rhythmical protrusion of the opposite wall of the sac. The operation was easy, lasted only thirty minutes, and caused no discomfort to the patient. The spot where the puncture had been made was carefully covered with iodoform gauze. There were no bad symptoms until the end of the third day, when the temperature began to rise. It eventually reached 102° F. The size and state of the tumor were certainly not favorably affected by the operation, while the patient's general condition became worse. The tumor grew softer, and on the seventeenth day after the operation a sudden and fatal hæmorrhage into the pleural cavity occurred. An autopsy was not permitted. In this case there was not even an apparent improvement after the introduction of the wire. The speaker added that, if he had occasion to repeat the operation, he would use ordinary unpolished iron wire, because he believed that its rough surface would be more likely to favor coagulation.

Dr. Briddon asked if catgut introduced into an aneurysmal sac did not soon become softened and float in the blood-current, so that there was danger of its being carried into the distal vessels.

Dr. Abbe thought that it was desirable that the artery leading from the sac should be plugged; doubtless this sometimes occurred.

Dr. Briddon explained that he referred, not to the distal portion of the artery at its exit from the sac, but to the distal vessels. If only one vessel was obstructed, no harm would result, but all the efferent vessels might be plugged.

Dr. Abbe did not see how this accident could occur, as the catgut became so matted together that a portion of it could not escape from the sac unless the entire mass was dislodged.

Dr. Gerster referred to a case in which, during the introduction of wire into an aneurysm of the aortic arch, alarming cardiac symptoms occurred. It was found that a portion of the wire had become separated, and was pushed downward through the lower opening of the sac until it rested upon the aortic valves.

Dr. Abbe said that a similar accident had occurred in Dr. Ransohoff's case. A piece of wire was pushed through the sac, and came in contact with one of the valves, in consequence of which the patient had a severe attack of syncope during the operation. In reply to a question by the president, he admitted that the operation was not entirely devoid of risk, but it must be remembered that the cases were all desperate ones.

Dr. Wyeth said that he had been disappointed to see that none of the speakers had drawn a comparison between the results of the method described by Dr. Abbe and those of distal ligation. All the cases mentioned by the reader had terminated fatally within three months at the longest, the average duration of life after the operation being about twenty-five days. The results of distal ligature had certainly been much better as regarded both the prolongation of life and cure of the aneurysm. He cited in this connection the case of a patient in whom he had tied the right subclavian and carotid for an aneurysm involving the sinus magnus of the aorta, which had advanced so far as to cause erosion of one rib. The patient was clearly in a hopeless condition, and death was imminent. After the operation she was greatly improved, the tumor decreasing visibly, and lived for a year, dying eventually of acute diarrhœa. At the autopsy it was found that the sac was almost entirely filled with coagulated blood, the space that remained being no larger than an almond. The speaker still had the specimen in his possession. The benefit to this patient had been undoubted, and there was no reason to believe that she would ever have died in consequence of the aneurysm.

Book Notices.

A Text-Book on Surgery, General, Operative, and Mechanical. By John A. Wyeth, M. D., Professor of Surgery in the New York Polyclinic, Surgeon to Mount Sinai Hospital, etc. New York: D. Appleton & Company, 1887. Pp. viii–777. [Sold by subscription; price, $8.]

A modern text-book on surgery, provided it professes to give within a moderate compass a satisfactory account of the general range of surgery, is valuable to the general practitioner in proportion as it makes details plain and clearly presents their underlying principles. Gauging it on this basis, we are convinced that Dr. Wyeth's work will speedily take a prominent place in the esteem of the profession. The author's well-known *penchant* for surgical anatomy had prepared us for a careful consideration by him of the operations on the arteries, and we find that he has treated of the subject admirably. But neither this nor any other one topic has been allowed to overtop the rest of the contents. Except such by-paths as only a specialist would be likely to wish to enter upon, the whole domain of surgery has been fairly presented, and the arrangement of the subjects is good. In particular, we would commend the care that has been bestowed on the important matters of surgical dressings, bandaging, and the like. These details lie at the very foundation of success in surgical practice, and too much attention can scarcely be given to them in a text-book. The appearance of the book is in the highest degree creditable to the publishers; the print is clear, the paper is excellent, and the illustrations, which are numerous and nearly all original, are among the best of their class that we have seen. They include quite a number printed in colors.

Practical Pathology: an Introduction to the Practical Study of Morbid Anatomy and Histology. By John Lindsay Steven, M. D., Assistant to the Professor of Clinical Medicine in the University of Glasgow, etc. New York: Macmillan & Co., 1887. Pp. xvi–266. [Price, $1.75.]

This volume contains more practical information on its subject than we have found in any volume of equal size. The reader, if he is one who has some knowledge of the subject, will at once be impressed with the idea that the author has written from experience in the practical application of the directions which he has given, as well as from personal study of microscopic sections. It is an excellent introduction. It is more than an elementary work. It is entitled to the name of compendium of practical pathology. It is a good book for students who are still working under teachers. It is not illustrated, and therefore it may not be attractive. But its intrinsic merit exists nevertheless. Probably the explanation of all this lies in the fact that it is based upon a practical course of instruction in pathological histology. The writer says that it was "primarily intended for the use of students," and he has met the indications well.

There are two parts. The first contains eight chapters in which the reviewer finds excellent directions for performing a post-mortem examination, for selecting morbid tissues for microscopic examination, for using hardening and softening fluids, for making sections and for mounting them, for staining sections, and for injecting tissues. Part second is divided into two sections. The first is devoted to general morbid histology, including tumors and parasites; in the second, special morbid histology is considered, including diseases of the heart and pericardium, blood-vessels, respiratory organs, kidneys, liver, spleen, alimentary canal, nervous system, bones, and joints. The book is well printed with large type upon good paper, and has an index.

Die Pathologie und Therapie die Gelenkentzündungen. Von Prof. Dr. Max Schüller in Berlin. Wien und Leipzig: Urban & Schwarzenberg, 1887. Pp. vi–93.

There can be no doubt that the statement made by the author in this admirable brochure upon the pathology and treatment of inflammation of the joints—that a wide diversity of opinion exists between pathologists, surgeons, and clinicians concerning a proper classification of inflammation of the joints

—is quite true. There is only one way out of the difficulty engendered by this state of things—namely, a thorough understanding among surgeons as to the best method of classifying diseases of the joints. Up to the time of the appearance of this work of Schüller's nothing had been done toward a solution of the problem, how best to classify these diseases. Our author has certainly struck the key-note of the whole matter when he declares that clinical facts alone should be the guide in making such a classification. The object of the work under notice seems to have been to closely study the subject from the standpoint of the surgeon and clinician, with the view of offering a classification based upon such a study.

The book is divided into—1. General pathological anatomy of joint inflammations. 2. Classification of inflammation, and a brief account of characteristics of some inflammations of joints. 3. Existence of inflammation of joints and their frequency under different conditions. 4. Ætiology. 5. Symptomatology, examination, and diagnosis in general. 6. Prognosis and mortality. 7. Treatment, including non-operative, operative, and general treatment, complications, etc. 8. Literature.

BOOKS AND PAMPHLETS RECEIVED.

The Facial Nerve in the Domestic Cat. By T. B. Stowell, Ph. D. [Read before the American Philosophical Society.]

The Diseases of the Ear and their Treatment. By Arthur Hartmann, M. D., Berlin. Translated from the Third German Edition by James Erskine, M. A., M. B., Surgeon for Diseases of the Ear to Anderson's College Dispensary, Glasgow, etc. With Forty-two Illustrations. New York: G. P. Putnam's Sons, 1887. Pp. xiv–285. [Price, $2.75.]

A Compend of Surgery for Students and Physicians. By Orville Horwitz, B. S., M. D., Demonstrator of Anatomy in Jefferson Medical College, etc. Third Edition, thoroughly revised, enlarged, and improved. With Ninety-one Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. viii–9 to 210.

A Treatise on Diseases of the Skin, with Special Reference to their Diagnosis and Treatment, including an Analysis of Eleven Thousand Consecutive Cases. By T. M'Call Anderson, M. D., Professor of Clinical Medicine in the University of Glasgow, etc. With Colored Plates and Numerous other Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xviii–17 to 662.

Official Register of the Physicians and Surgeons in the State of California who hold Certificates from the Board of Examiners of the Medical Society of the State of California, January 31, 1887. To which has been appended a Complete List of those who hold Certificates from the Homœopathic and Eclectic Boards; also a Complete List, as far as Procurable, of all Persons practicing Medicine in this State without a Certificate from either of the Boards. Third Edition. Revised and published by the Board.

A Successful Case of Partial Excision of the Larynx, on account of Intra-laryngeal Epithelioma. By Lennox Browne, F. R. C. S. Ed., Senior Surgeon to the Central London Throat and Ear Hospital, etc. [Reprinted from the "British Medical Journal."]

Considérations sur les écoulements d'oreille. Par M. le Docteur Charazac, de Toulouse.

Extrait du nouveau dictionnaire de médecine et de chirurgie pratiques. Article Superfétation, par Doléris. Paris: J. B. Baillière et fils.

Considérations sur la rigidité de l'orifice utérin pendant le travail. Étude sur la rigidité du col d'origine syphilitique. Par le Docteur Doléris, Chef de clinique obstétricale et gynécologique de la Faculté. [Extrait des "Archives de tocologie."]

Considérations sur les divers procédés d'embryotomie. Décollation avec la ficelle; procédé du Professeur Pajot. Par le Docteur Doléris, Chef de clinique d'accouchements de la Faculté. [Extrait des "Annales de gynécologie."]

Observation d'un cas de rupture utérine suivie de guérison. Par le Dr. A. Doléris, Chef de clinique d'accouchement de la Faculté de Paris. [Extrait des "Annales de gynécologie."]

Périnéorrhaphie immédiatement après l'accouchement au moyen des sutures continues dites en surjet ou en spirale, avec les fils de catgut résorbables. Par le Docteur Doléris, Chef de clinique obstétricale et gynécologique de la Faculté. [Extrait des "Archives de tocologie."]

De l'analgésie des voies génitales obtenue par l'application locale de la cocaïne pendant le travail de l'accouchement. Par le Docteur Doléris, Chef de clinique obstétricale et gynécologique de la Faculté. [Extrait des "Archives de tocologie."]

De la version podalique partielle par manœuvres internes et externes combinées. Par le Docteur Doléris, Chef de clinique d'accouchements de la Faculté. [Extrait des "Annales de gynécologie."]

Dermatologischen Studien. Von Dr. P. G. Unna. Drittes Heft. Beiträge zur Anatomie und Pathogenese der Urticaria simplex und pigmentosa. Zur Kenntniss des elastischen Gewebes der Haut. Viertes Heft. Die Rosanilin und Pararosanilin. Eine bakteriologische Farbenstudie. Hamburg und Leipzig: Leopold Voss, 1887.

Report of the Special Committee (appointed December 11, 1885) on the Disinfection of Rags. Presented at the Fourteenth Annual Meeting of the American Public Health Association, Toronto, Canada, October, 1886. [Reprinted from the "Transactions of the American Public Health Association."]

L'amputation du membre supérieur dans la contiguité du tronc (amputation interscapulo-thoracique). Par Paul Berger, chirurgien de l'hôpital Tenon; professeur agrégé à la Faculté de médecine, etc. Avec figures dans le texte, et 2 planches en chromolithographie. Paris: G. Masson, 1887. Pp. 371.

Sphygmography and Cardiography, Physiological and Clinical. By Alonzo T. Keyt, M. D. Edited by Asa B. Isham, M. D., and M. H. Keyt, M. D. New York and London: G. P. Putnam's Sons, 1887. Pp. vi to 229. [Price, $3.50.]

Practical Lessons in Nursing. The Nursing and Care of the Nervous and the Insane. By Charles K. Mills, M. D., Professor of Diseases of the Mind and Nervous System in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. Philadelphia: J. B. Lippincott Company, 1887. Pp. 8–9 to 147. [Price, $1.]

A Descriptive List of Anthropometric Apparatus, consisting of Instruments for measuring and testing the Chief Physical Characteristics of the Human Body. Designed under the direction of Mr. Francis Galton, and manufactured and sold by the Cambridge Scientific Instrument Company, St. Tibb's Row, Cambridge, England, 1887.

On Curare. By S. Pollitzer, A. M., M. D., of New York. [Reprinted from the "Journal of Physiology."]

Ueber den Nährwerth einigen Verdauungsproducte des Eiweisses. Von S. Pollitzer, A. M., M. D., aus New York. [Separat-abdruck aus dem "Archiv für die gesammte Physiologie."]

The Second Annual Report of the Board of Health of the City of Hartford, Conn., for the Year ending February 28, 1887.

Reports on the Progress of Medicine.

GENERAL MEDICINE.

By H. N. VINEBERG, M. D.

Acetonuria. — Moscatelli and Vitali ("Rivist. venet."; "Deut. Med.-Ztg.," 1886, No. 95) treat of this condition of the urine. Moscatelli has examined large quantities of urine, and has never been able to detect even traces of acetone in the urine of healthy individuals. He looks upon the presence of this substance as always being of pathological import. Vitali relates two cases in which, during life, acetone appeared constantly in the urine for a long time. The one case occurred in a diabetic woman of thirty-five years of age, who had a distinct sour-milk odor from the breath; acetone was found in the urine both with Lieben's and Lugol's tests, and it made no difference whether the patient took a meat or mixed diet. Toward the end of life the patient had an attack of erysipelas, during which both the sugar and acetone disappeared from the urine. It is interesting also to note that during nearly the half-year in which acetone appeared in the urine not the slightest evidence of intoxication was manifest. The second was in a case of severe intestinal obstruction arising from a malignant tumor, in which regularly every two days there was vomiting of copious fœtid, darkish-brown masses, while the stools contained only a small quantity of hardened fæces. The breath had an ether-like smell; the urine was scanty and of high color, and exhibited decided quantities of acetone, which was found also in the vomited masses. In this case also not a single symptom obtained which could be traced to acetonic intoxication. In the urine of a neuropathic patient the author could not distinctly detect any acetone, nor could he do this even after the patient had been given three c. cm. of pure acetone. In a healthy, strong individual, only when eight c. cm. of acetone had been administered could any be found in the urine. [These observations militate against the theory that diabetic coma is due to the presence of acetone in the urine. It would seem that we are still far from realizing the expectations arising from the confident assertion of the physiological chemists: that all pathological problems can be unraveled by their science.]

Hepatic Glycosuria.—Dr. G. H. Roger ("Rev. de méd.," 1886, No. 11), cognizant of the diversity of opinion of observers on the occurrence of temporary glycosuria in various hepatic affections after a full meal, or after the ingestion of sugar, instituted original observations in twelve patients suffering from various diseases of the liver in order to determine this point. He divided his cases into four groups: (1) Cirrhosis with ascites, and attended with the development of collateral circulation; (2) other varieties of cirrhosis; (3) lithiasis and catarrhal icterus; (4) hepatic tumors, cancer, and hydatid cysts. The patients were given in the morning, on an empty stomach, one hundred and fifty grammes (℥ v) of sugar syrup. The urine was collected during the following four hours and examined with Fehling's solution for sugar. In one of the cases belonging to the first group there was a spontaneous glycosuria, and the ascitic fluid contained sugar. The patient became very much emaciated and had œdema of the inferior extremities before death. In none of the other four cases did sugar appear in the urine after the ingestion of the syrup. The ascitic fluid was withdrawn from two of the patients, and that of one of them contained sugar. Of the three cases forming the second group, one was a case of atrophic cirrhosis unattended with the development of the abdominal cutaneous veins, the second was a case of hypertrophic cirrhosis without icterus, and the third was a case of hypertrophic cirrhosis with icterus. In the first two there was sugar in the urine, and in the other case there was no sugar in the urine after the ingestion of the syrup. In the four cases belonging to the third group, sugar was present in the urine in all but one. There were one case of cancer and one case of hydatid cyst forming the fourth group; sugar was present in both.

Increase of Tendon Reflexes in Peripheral Neuritis.—A. Strümpell and P. J. Mobius ("Ctrlbl. f. klin. Med.," 1886, No. 47), relying upon their observations in some undoubted cases of multiple neuritis, controvert the assertion that in that condition the tendon reflexes are diminished or absent. In their cases the reflex of the tendons of the muscles of the thigh and arm and shoulder-blade was exceedingly active. The skin reflexes were about of the normal intensity. On the cure of the nerve inflammation, the reflexes of the affected muscles became less intense.

Digestive Ferments in the Urine in Bright's Disease.—G. Mya and S. Belfanti (*ibid.*, No. 42) found two ferments in normal urine resembling in action pepsin and trypsin (see abstract in this Journal, Nov. 9, 1886), and now they publish the results of their examinations of the urine in Bright's disease for these ferments. In twenty-eight cases of Bright's disease, comprising four acute and twenty-four chronic cases, the ferment analogous to trypsin was not found in a single instance, while that resembling pepsin was found in a large majority of the cases. At first the authors were of the opinion that the absence of the trypsin was due to the albuminuria, the albumin of the urine attracting the ferment to itself; but this opinion they have to reject on the following grounds: (1) It can not be conceived how the albumin would attract the urotrypsin and leave the uropepsin intact; (2) in simple cases of albuminuria not dependent upon Bright's disease, urotrypsin is always found; (3) when a considerable quantity of blood-serum is added to normal urine, it is found that the fibrin attracts both ferments equally; (4) urotrypsin is absent in interstitial nephritis, in which the amount of albumin is small, as well as in parenchymatous nephritis, in which the amount of albumin is abundant. As a result of their observations, the authors consider themselves justified in asserting that there is a connection between the condition of the kidneys and the presence of the digestive ferments in the urine, and that one of these ferments—trypsin—is absent in Bright's disease.

The Detection of Tubercle Bacilli in Urine.—Dr. A. Kirstein ("Dtsch. med. Woch.") found tubercle bacilli in a case of tuberculosis of the genito-urinary organs, which helped materially to clear up a previously obscure diagnosis. The examination of the sediment gave a positive result once only in thirty or forty preparations. The very small number of bacilli in such cases renders a diagnosis difficult. When the author filtered the sediment and examined a portion of the residuum he succeeded in detecting bacilli in almost every specimen, and would therefore advise a similar method in such cases.

Tubercle Bacilli in Healthy Genito-urinary Organs in Consumptives.—Curt Jani (Virchow's "Archiv."; "Ctrlbl. f. klin. Med.," 1886, No. 38), in connection with the question of the hereditary transmission of tuberculosis, undertook the systematic examination of the genito-urinary organs of men who had died of phthisis. All cases of manifest tuberculosis of the testicles, prostate, and vesiculæ seminales, as also cases of acute general miliary tuberculosis, were distinctly excluded. The examinations for bacilli in the dried spermatozoa of nine bodies, carried out under the requisite precautions, were negative. In the testicles a few bacilli were found inside the tubuli seminiferi in five out of eight cases, and in the prostate in four out of six cases. Apart from the presence of the bacilli, there was no evidence whatever of any morbid process in the tissue of these organs. In a case of a female with chronic phthisis attended with marked tuberculosis of the intestines, bacilli were found in the folds of the tubal mucous membrane. The author is of the opinion that these were carried there from the peritoneal cavity by the vibrations of the fimbriæ. The ovaries were free from any bacilli. In conclusion, Jani reports the examination of a fœtus and placenta of a woman who died of acute general miliary tuberculosis in the fifth month of pregnancy. Although all the other organs were closely studded with tubercles, neither tubercles nor bacilli could be found in the uterus, placenta, or fœtus.

Nervous Cardiac Debility (Neurasthenia Vasomotoria).—Dr. O. Rosenbach ("Ctrlbl. f. klin. Med.," 1886, No. 48) would indicate by this term a pure neurosis of the heart, without any organic change, which commonly obtains as part of the phenomena of general neurasthenia. It is an affection of early adolescence and of the age of puberty, and occurs mostly in anæmic or nervous constitutions. Severe bodily or mental exercise, excessive use of alcohol, coffee, tobacco, etc., violent emotional excitement leading to melancholia, are important ætiological factors. The affection exhibits two well-defined stages—first one of excitement, and then one of depression. The first stage is characterized by rapid changing congestion of the face and hands, by paræsthesia of the skin of the chest and upper extremities, and hyperæsthesia of the cardiac region, in consequence of which pericardial anxiety and palpitation occur without any appreciable cause. In addition, there are often insomnia, anorexia, constipation, and frequent micturition. The heart's activity and pulse-rate are seldom increased. In the second stage, the patient suffers from continued marked paleness, great psychical depression, and lassitude. Palpitation and arterial pulsation are felt in spite of lowered heart power and weak pulse, the general reflex excitability is enormously increased, and the patient suffers from headache, dizziness, faintness, anorexia, etc. Important as a means of differential diagnosis are the ætiology and the absence of any organic lesion; the continuity of the symptoms, while in real disease of the cardiac muscles or vessels there are always exacerbations; the absence of signs of congestion; and the slightly changed respiration, notwithstanding a subjective feeling of dyspnœa. Certainly, a long-continued neurosis of the heart may result in disease of its muscles or arteries; but in the majority of the cases one can succeed, sooner or later, in allaying the neurosis. Considerable energy and moral management are essential in the treatment of these cases. Electricity and hydropathic cures are not to be recommended. Together with hygienic and dietetic treatment, bromine preparations, iron, quinine, ergotin, and especially cocaine (gr. ½ twice daily), are useful.

Paralysis following Parotiditis.—Paralysis occurring as a sequel to diphtheria, scarlatina, and other infectious diseases is common enough, but that a simple case of mumps should be followed by paralysis excites at once our interest and credulity. The name and professional standing of the observer, M. A. Joffroy ("Progrès médical," 1886, No. 47), who reports a case of this kind, are, we think, of sufficient guaranty to place the case before our readers.

A doctor's child, aged four years and a half, was attacked with paralysis in the four extremities, which was most marked in the legs. There was no rigidity or contracture, and the tendon reflexes were totally abolished. Electrical excitability was absent. The sensibility of the muscles was notably increased, and slight pressure called forth severe pain. The sensibility of the skin, on the other hand, was diminished, and the cutaneous reflexes were absent. The special senses were intact. Apart from a slight albuminuria and loss of appetite, there was no evidence of disease of the internal organs. Diphtheritic paralysis was at once suspected, but the father was quite certain that the child had had no diphtheria. It had an attack of parotiditis on April 28, 1884, which was more pronounced on one side than on the other. On the fourth day it had some difficulty in swallowing, and the throat was examined and was found quite healthy. On the ninth day, during the night, the child was seized with lancinating pains in the arms, which lasted for about an hour. Two nights afterward the pains returned in the legs and arms, and were attended with formication in the knees and generative organs. Twenty-one days after the appearance of the mumps signs of paraplegia manifested themselves, which was looked upon as rheumatic, and salicylate of sodium was prescribed. The child some days after was brought to Joffroy, who diagnosticated paralysis following parotiditis. Stimulating frictions, tonics, and iodide of potassium were ordered, and in about two months the child was all but cured. A complete and satisfactory recovery ensued some months later. The author remarks that this is the first case on record of mumps having paralysis as a sequel.

Phenylhydrazin as a Test for Sugar.—Rudolf v. Jaksch ("Ztschr. f. klin. Med."; "Ctrlbl. f. klin. Med.," 1886, No. 38) employs this reagent as follows: Twice the quantity that can be taken up on the point of a knife of acid phenylhydrazin, and double this quantity of acetate of sodium, are put into a test-tube half filled with water. This is slightly warmed over a gas-flame, then an equal quantity of the suspected urine is added, and the tube is put in a boiling water-bath for twenty minutes. It is then put in a glass filled with cold water, and if the tested liquid contains any sugar, there will be in a short time a crystalline deposit (phenylglykusazon)—a compound of grape sugar and phenylhydrazin. That the crystals are really composed of this compound is substantiated by the melting point, which is 205° C. If there is a great deal of albumin in the urine, it must be removed before the test is applied; small quantities of albumin do not interfere with the test. The author has been successful with this reagent when others gave only a doubtful result. On the other hand, the absence of sugar was established by it in urines containing powerful reducing agents, as in the urines voided after the use of salicylic and benzoic acids. The author shows also that the urine in arsenic poisoning gives a negative result with phenylhydrazin, although it is rich in reducing agents. Again, with the same reagent, he detected grape sugar in the urines of three cases of poisoning by carbonic acid. Phenylhydrazin is, therefore, a valuable clinical reagent for sugar, which will be of service in detecting pathological glycosuria of temporary duration.

Paralysis following Chorea.—Dr. T. C. Railton ("Med. Chronicle," Dec., 1886) reports a case of paralysis following chorea which he thinks may be looked upon as a rare sequel of that disease. The patient, aged ten, had been suffering from chorea for about six weeks, affecting chiefly the right side, though the left side was not entirely free. There was nothing unusual about the attack, which yielded to a four weeks' course of arsenic. When the child left the hospital she was completely well. There were no cardiac murmur nor symptoms of paralysis. She never had had rheumatism. About two weeks after leaving the hospital she began to complain of pain in her legs and feet, which increased toward evening. She suffered from "pins-and-needles" sensations at the bottom of her feet. She was easily fatigued and her walking became uncertain. Two months after, when she was brought back to the hospital, the lower extremities were found wasted, but the child presented general emaciation. She walked not unlike an ataxic, doubtless from paresis of the muscles. There was dropped ankle. The knee-jerk was completely absent. She had no contractures and no spasms, and the sphincters were unaffected. Her optic discs were normal, and the pupils reacted easily to light. There was the reaction of degeneration with electricity. The arms and upper part of the body were apparently entirely unaffected as regards both sensation and motion, and their electrical reactions were normal. Under the administration of the iodides of iron and potassium and the application of galvanic electricity, the child gradually improved. As regards the nature of the case, the author thinks it was one of multiple neuritis due in some way to the preceding chorea, an opinion which was shared by Dr. James Ross, who saw the patient at a meeting of the Manchester Medical Society. The author does not consider it probable that the paralysis was due to the arsenic which was administered for the cure of the chorea. He states particulars of the dosage: From June 17th to June 21st she was given five drops of Fowler's solution three times daily; on the latter date the dose was increased to eight drops, on the 26th to twelve drops, and on July 1st to fifteen drops. There were no symptoms when the patient was discharged, on July 11th, of her having been over-dosed with the drug.

Hysteria in the Male after an Injury.—Dr. J. Dreschfeld (*ibid.*) reports three interesting and instructive cases of this kind: Case I was in a man aged twenty, who slipped and fell one day and was rendered unconscious for a short time. He complained of pain and stiffness in the hip on the following day. A few days afterward he was admitted into the Salford Hospital, where he stayed a few days, during which time he had a severe fit of hystero-epilepsy. When seen by the author the patient presented a number of abnormal sensations and symptoms, all of which were looked upon as being hysterical. Some months afterward the nervous symptoms disappeared, but the patient remained subject to attacks of hystero-epilepsy. Case II was in a commercial traveler who had been bitten by a dog, and was nervous and anxious through fear of hydrophobia. He suddenly became aphasic and hemiplegic on the right side. There was no doubt as to the hysterical nature of the case, which was verified by the patient suddenly regaining his speech. Case III was in a strong, healthy man aged forty-seven, who had always enjoyed good health. He met with an accident one day during which he received a fall which rendered him insensible for a short time. Various nervous symptoms developed after the fall, none of which could be referred to a lesion of the brain or cord, but which, however, corresponded to those generally observed in hysterical subjects. The symptoms remained much the same for about a year, after which the patient passed away from observation. The author remarks that these cases sufficiently show that hysteria in the male, coming on after injuries, differs in no way from the classical hysteria in females.

Miscellany.

The New York Academy of Medicine.—At the next meeting of the Section in Surgery, Monday evening, the 11th inst., Dr. C. A. Powers will read a paper on "Meningeal Hæmorrhage treated successfully by Trephining and Counter-opening of the Skull for Drainage," and Dr. R. T. Morris will read a paper entitled "The Reasons for Tait's Success in avoiding Septic Accidents."

At the next meeting of the Section in Orthopædic Surgery, Friday evening, the 15th inst., Dr. Joseph D. Bryant will show patients who have had knee joints excised.

At the next meeting of the Section in Ophthalmology and Otology, Monday evening, the 18th inst., Dr. Emil Gruening will read a paper on "Cataract Extraction without Iridectomy," and Dr. Joseph A. Andrews will report two cases of successful removal of orbital exostoses.

The "Eastern Medical Journal" gives in its April number the full text of Dr. Bowditch's address to the Rhode Island Medical Society, to which we lately alluded. We are glad that an opportunity of reading the address is thus given to many who have perhaps been unable to obtain it in the form in which it was originally published.

The Post-graduate Medical School and Hospital.—It is announced that a matinée is to be given at Daly's Theatre on Monday afternoon, the 18th inst., at 2 o'clock, in aid of the hospital attached to the school. Mrs. G. H. Gilbert, Miss Ada Rehan, Miss Virginia Dreher, Miss May Irwin, Mr. John Drew, Mr. George Parkes, Mr. Otis Skinner, Mr. Charles Fisher, Mr. James Lewis, and Mr. William Gilbert have kindly consented to take part in the performance. "The Country Girl" and "A Woman's Won't" will be presented. Tickets (reserved seats, $2.50; boxes, $20 and $25) may be had of Dr. B. McE. Emmet, Dr. W. O. Moore, Dr. C. C. Rice, Dr. W. A. Hammond, Dr. S. D. Powell, or Dr. F. R. Sturgis.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending March 31st:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending March 12th corresponded to an annual death rate of 21·6 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest death rate was recorded in Derby, viz., 16·1, and the highest in Manchester, viz., 33·7 in a thousand.

London.—One thousand six hundred and forty-nine deaths were registered during the week ending March 12th, including 79 from measles, 13 from scarlet fever, 13 from diphtheria, 35 from whooping-cough, 13 from enteric fever, and 12 from diarrhœa and dysentery. There were 433 deaths from diseases of the respiratory organs. Different forms of violence caused 60 deaths, and 5 suicides were registered. The deaths from all causes corresponded to an annual rate of 20·4 in a thousand. In greater London, 2,024 deaths were registered, corresponding to an annual death rate of 19·5 in a thousand of the population. In the outer ring, 17 deaths from measles and 1 from small-pox were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending March 12th, in the sixteen principal town districts of Ireland, was 27·1 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 9·6, and the highest in Limerick, viz., 36·7.

Dublin.—Two hundred and twelve deaths were registered during the week ending March 12th, including 1 from scarlet fever, 3 from whooping-cough, 4 from enteric fever, 1 from cerebro-spinal fever, 1 from erysipelas, and 1 from measles. Diseases of the respiratory organs caused 62 deaths. In thirty instances the causes of death were uncertified, there having been no medical attendant during the last illness. The deaths from all causes corresponded to an annual rate of 31·3 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending March 12th was 25·0 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Leith, viz., 14·7, and the highest in Aberdeen, viz., 34·6 in a thousand. The aggregate number of deaths registered from all causes was 625, including 43 from measles, 14 from scarlet fever, 7 from diphtheria, 25 from whooping-cough, and 11 from diarrhœa.

Greece.—The Greek Government has given notice that vessels from Sicily will be subject to a fifteen days' quarantine.

Denmark.—The Danish Government orders inspection of all vessels from Italian ports on the Adriatic, and Sardinia, Paraguay, Uruguay, the Argentine Republic, Tunis, Egyptian ports on the Red Sea, Feg, Meguirez, Dan El Buda in Morocco, Rio de Janeiro, Havana, and Japan. The importation of rags is prohibited from Paraguay, Uruguay, the Argentine Republic, Sardinia, Austro-Hungary, and Italian continental ports, as well as from Rio de Janeiro and Havana.

Palermo.—The following dispatch, under date of March 23, 1887, has been received from the United States consul: "In consequence cholera, Catania, vessels from Sicily subjected to quarantine on Continent and various ports Europe."

Warsaw.—Two hundred and eighteen deaths were registered during the week ending February 26th, including 7 from small-pox.

Belfast.—Two hundred and thirty-eight deaths were registered during the two weeks ending March 5th, including 3 from typhus fever, 6 from enteric fever, and 1 from scarlet fever.

Glasgow.—Two hundred and fifty-eight deaths were registered during the week ending March 5th, including 4 from scarlet fever, 2 from diphtheria, 18 from whooping-cough, and 5 from diarrhœa.

Bordeaux.—Six hundred and six deaths were registered during the month of February, including 13 from enteric fever.

Barmen.—Thirty-eight deaths were registered during the week ending March 5th, including 3 from measles, 1 from scarlet fever, 1 from diphtheria, and 1 from cholera morbus.

Copenhagen.—Two hundred and eighty-three deaths were registered during the two-weeks ending February 22d, including 2 from enteric fever, 2 from scarlet fever, and 9 from diphtheria.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM— Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Warsaw	February 26.	431,572	218	..	....	7	....	....	....	....
Belfast	February 26.	224,422	135	..	....	....	2	4	....	....
Belfast	March 5.	224,422	103	..	....	....	1	2	1	....
Glasgow	March 5.	545,678	258	..	....	....	....	....	4	2
Barmen	March 5.	108,000	38	..	....	....	....	....	1	1
Copenhagen	February 15.	289,000	151	..	....	...	....	1	1	3
Copenhagen	February 22.	289,000	132	..	....	....	....	1	....	6
Queenstown	March 5.	......	12	..	....	....	....	....	....	....
Matamoras	March 12.	12,000	8	..	....	....	....	....	....	....
Acapulco	February 21.	42,000	4	..	....	....	....	....	....	....
Acapulco	February 28.	42,000	5	..	....	....	....	....	....	...
Cadiz	March 5.	65,028	70	..	....	....	....	...	....	....
Amsterdam	March 5.	370,000	185	..	....	....	....	....	....	5
Toronto	March 19.	120,000	18	..	....	....	....	....	....	....
Kingston, Canada.	March 18.	15,109	9	..	....	....	....	....	....	....
Three Rivers	March 12.	10.000	6	.	....	....	....	....	....	....

Mexican Frontier.—Owing to the existence of small-pox in Mexico, and to prevent the introduction of the same into the United States, the Secretary of the Treasury, upon the request of the Board of Health of the State of California, has authorized the appointment of sanitary inspectors, to serve under the direction of the Supervising Surgeon-General of the Marine-Hospital Service, at Yuma, Nogales, Benson, and Albuquerque, to assist and co-operate with the State and local authorities in the inspection of passengers and baggage, etc., at the places named.

Port Townsend, Wash.—The medical officer in charge of the Marine-Hospital Service at Port Townsend, under date of March 22d, states that the Territorial board of health, owing to the prevalence of infectious disease in South America, have instructed the health officer at that port to inspect all vessels coming from any port south of San Francisco.

The Health of Boston.—During the week ending Saturday, April 2d, there were reported to the Board of Health 24 cases of diphtheria and 4 deaths; 15 cases of scarlet fever and 1 death; 9 cases of typhoid fever and 1 death; 60 cases of measles and no deaths. There were also 28 deaths from consumption, 24 from pneumonia, 15 from heart disease, 16 from bronchitis, and 5 from marasmus. The total number of deaths reported was 193, which was 10 more than for the corresponding week last year.

ANSWERS TO CORRESPONDENTS.

A Question of Pronunciation.—An Iowa correspondent asks us what pronunciation of the termination *-itis* is correct. He states that he was taught to give the first *i* the sound of short i or that of long e, but that in his section of the country the prevailing custom is to pronounce it like long i. The stress always comes on that syllable; therefore it should not have the sound of short i, except in the oblique cases (*e. g.*, genitive, *-itidis*). Either of the other pronunciations is correct, according as one adopts the Roman or the English method. In our opinion, the former, which calls for the long e sound of the vowel in question, is fast gaining ground, and is destined to supplant the other entirely within a very few years.

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Original Communications.

IRRITATIONS ARISING FROM THE VISUAL APPARATUS CONSIDERED AS ELEMENTS IN THE GENESIS OF NEUROSES.*

By GEORGE T. STEVENS, M. D.

Two classes of influences are recognized as causes of functional nervous disorders—the more remote or predisposing causes, and those which are immediate. The former, while frequently of insufficient intensity to originate neuroses, may, when the nervous disturbance has been once instituted, be sufficient to perpetuate it for an indefinite time. Immediate causes are, perhaps, rarely of a nature to induce long-continued nervous disorder, and in many instances in which an occasion of disturbance may seem to be clearly indicated by the history of the affection, the influence of the supposed cause may long have passed away, while a pre-existing cause may act in continuing the disorder. This fact can not be too clearly recognized in the study of this class of affections.

It may, for instance, be of little practical importance that a child first manifested symptoms of some severe nervous disorder while under the influence of fright. The evil has been accomplished and the event can not be recalled, nor can such an influence as fright or momentary passion be regarded as permanent or of long continuance. Nor are we to assume some radical disarrangement of nervous action originating from the immediate cause and which perpetuates itself. Such radical disarrangement has not been demonstrated, nor is its existence at all probable.

The hypothesis that there is an underlying cause of disturbance becomes stronger in proportion as we abandon the idea that immediate causes can act as permanent sources of irritation or that a radical disarrangement for nervous action is by such causes induced. Such underlying causes are fully recognized by students of nervous disorders, and their existence is so constantly verified by the daily experience of the members of this society that their importance can not be questioned. Persons in whom such underlying causes exist are said to possess a neuropathic predisposition, and individuals subject to this unfortunate predisposition are liable from trifling immediate causes to suffer from neuroses which manifest themselves in a great variety of ways. Thus one individual will, as a sequel to almost every unusual emotional or intellectual excitement or depression, suffer from headache; another will, with atmospheric changes so slight as to be little regarded by the majority of people, habitually take cold.

It is generally conceded that in a very large proportion of instances this neuropathic tendency is hereditary, but that the predisposition is not necessarily manifested in different generations by the same form of neurosis, nor indeed that in the same individual it is always manifested in an identical manner, but that any one or more than one of a variety of kindred affections may arise as the result of the predisposing tendency.

Anstie, who made special and extensive inquiry respecting this tendency, found that neuralgia, insanity, epilepsy, paralysis, chorea, a tendency to uncontrollable alcoholic excesses, and phthisis were among the group of disorders which, through hereditary tendency, might manifest themselves either in the same manner or interchangeably.

Of immediate causes of neuroses there is so great a variety that any attempt at enumeration would be futile. Among those familiar to all who hear me may be mentioned the depressed condition of the nervous system after recovery from exanthematous diseases, severe and long-continued mental or physical strain, excessive emotional excitements, physical shock, and sudden and extreme changes of temperature. The effect of these and many other exciting causes must, in the nature of the case, be transitory, and, independently of some more permanent influence, can rarely, if ever, account for long-continued, and especially for intermitting, forms of nervous diseases.

Another class of causes should be recognized as exerting marked influence in nervous disorders. This class may be designated as *modifying* tendencies. Among these may be mentioned the influence of vitiated atmosphere, the so-called malaria, the period of life, the performance of certain physiological functions, especially those peculiar to females, and the nature of the employment of the individual. Thus, one subject to recurring headaches, while residing in a malarial region, may find the paroxysms so modified as to resemble attacks of malarial fever. The period of recurrence of migraine or of ordinary headaches is in a considerable number of females governed by the recurrence of certain physiological periods. It is evident that whatever may be the exciting cause of a neurosis, it must, under the great majority of circumstances, be of infinitely less consequence than the influence which leads to it and perpetuates it.

The predisposing influence not only tends to prolong the disorder, but to perpetuate nervous derangements in some form or other, so that when a certain form of complaint is supposed to be cured it very often happens that the subject of disorder becomes the victim of some other nervous disease. So also individuals affected by one form of nervous disorder at one period of life are especially liable to suffer from some other form at another period. Thus, chorea in the majority of instances runs its course in the space of a few weeks, but the person who has been a victim of this affection in early life will be likely to suffer from neuralgia or headaches, and sometimes from epilepsy, in later years. Hence the predisposition is one which is a constant element in the organization of the individual, and may be the same for different forms of disorders; and, moreover, the cure of one complaint may be only the signal for the commencement of another, or, more correctly, the supposed cure of one form of disorder may be only a change in the manner of manifesting a permanent irritation.

We may now inquire whether such a predisposing cause must of necessity be general, pervading the whole organism, or must it necessarily find its seat in the nervous centers, or, finally, may such a predisposing cause be entirely local and outside the great nervous centers? To this question the answer may unhesitatingly be given that the predisposing or irritating cause may be wholly local and confined to any portion of the central or peripheral nervous system. This principle has been too often demonstrated, and is too familiar to those present, to demand any defense. It may not, however, be out of place to remind those to whom the facts are not new of one of Dr. Brown-Séquard's experiments. In enumerating some of the effects of tickling the sole of the foot in a large number of subjects, he speaks, among other things, of laughter, of tears, of jerks of one or both limbs, of a side, or of all the limbs, of tremblings and spasms, while in some instances no effect was manifest.

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* Read before the New York Neurological Society, March 1, 1887.

We are now prepared to inquire whether, inasmuch as this tendency is transmitted from parent to child, the evil may not consist of some peculiarity of anatomical structure, or of physiological adaptations, which are inconsistent with the most regular and easy performance of the function of a part or parts; and whether certain classes of mechanical peculiarities may not be more than usually liable to become factors of physiological disturbance.

Should we answer these two questions in the affirmative, we assume an hypothesis which, in order to be maintained, must be based upon many and long-continued observations, conducted in a spirit of judicial independence and free from all such bias as might result from occasional and exceptional experiences.

It is my purpose this evening to advance just such an hypothesis, and I hope to be able, while having a just regard for the experiences and teachings of all who have contributed to this important subject, and while avoiding any narrow or exclusive view, to establish the hypothesis in the minds of my hearers. The conclusions which will be announced are based upon observations in more than five thousand cases of nervous diseases in private practice and of a considerable number of cases in public institutions, all of which have been made with as much care and precision as the exacting demands of an active professional life would permit.

That in the course of these observations many cases have failed to receive due attention is undoubtedly true, but that in the general results of this investigation the conclusions reached are legitimate, I think may be affirmed without presumption. In the belief that the neuropathic predisposition must of necessity be the manifestation of many structural peculiarities located in various parts of the organism, any of which may descend from parent to child, but which do not necessarily so descend, and fully appreciating the influence of such immediate and modifying causes as have been already mentioned, the conclusions arrived at in this investigation have been thus stated in a memoir submitted to the Royal Academy of Medicine of Belgium in 1883:

Difficulties attending the functions of accommodating and of adjusting the eyes in the act of vision, or irritations arising from the nerves involved in these processes, are among the most prolific sources of nervous disturbances, and, more frequently than other conditions, constitute a neuropathic tendency.

A doctrine so much at variance with ordinary beliefs must of necessity excite suspicion that the proposition has been based upon insufficient data, or that observations have been imperfectly made. That neither of these suspicions is correct, it is hoped may be shown to the satisfaction of reasonable inquirers. If the proposition appears extreme, and tending at best to the recognition of a single class of causes to the exclusion of others, let me recall the fact that the proposition fully recognizes any and all causes of nervous irritation, and that the influences indicated are held to be pre-eminent but not exclusive permanent causes. If greater importance is conceded to the influences mentioned in the proposition than to others, it is from no unmindfulness of the possibility of other conditions acting as irritating influences, or that certain known or unknown influences may give character to the results of irritation arising from the causes mentioned. Let it be remembered that it has been universally conceded that the nature of the neuropathic tendency is unknown. If one pre-eminently important element is demonstrated, it is not to be rejected because it may not include the whole.

In the explanation of the ætiology and treatment of disease, neither settled theories nor novel doctrines are to be accepted only as they are confirmed by undoubted facts. Nor can isolated facts, nor facts divested of their natural environments, be accepted as valid evidence in support of theories, old or new. The facts must be uniform, occurring so regularly as sequences as to demonstrate that they are consequences. Unless the skilled observer is able to predict, with a reasonable degree of accuracy, the result of certain combinations of circumstances, such result, when occurring, must be considered accidental. A fair demonstration of such a proposition would demand a wider range of discussion than could be included in a short paper, and I propose to give this evening only the general result of my experience very briefly.

I shall illustrate that experience by relating a few cases, and by exhibiting some photographs, which will show very remarkable changes of physiognomy, such as habitually occur when certain hurtful tensions of the ocular muscles are relieved.

Were it my purpose simply to report the most striking cases of relief from the various serious neuroses which are here represented, there might have been chosen for the most part cases of much more marked success than some of these. The purpose is, however, not to report the most fortunate results, but by these striking contrasts to show, not by words, but by the evidence of photography, the very marked relief which may be expected from removal of certain ocular muscular anomalies.

As the illustrative cases will be confined to those whose photographs are shown, it will be proper to speak first of the photographs in a general way. They are portraits in pairs, the first of each pair having been taken at the commencement of treatment, the second from two to six weeks or rather more later. The average time between them has been about one month.

The portraits are also in two series, the first series representing cases in my private practice; the second, cases which were under my care for a short time at the Willard Asylum for the Insane last summer. The portraits in the first series have been taken by various photographers. It may not be out of place to say that the only instruction given to the patient or to the person in charge was to get a cabinet-size portrait, with direct front view, and to see that the photographer did not retouch or in any way change the negative. Hence there has in no instance been any posing for effect. The second series was made by Dr. P. M. Wise, Superintendent of the Willard Asylum.

It is greatly to be regretted that several of the most striking of the portraits of both series were destroyed by the fire which recently consumed Mr. Bierstadt's establishment while photo-engravings were being prepared from them. Both the negatives and the only existing copies of the photographs were lost.

The portraits in the first series are mostly of young persons, whose features are plastic and susceptible to favoring influences. In the other group the faces are those of older persons, whose features are less impressible; even in these very marked changes are observed.

The striking alterations of expression shown in these portraits are all the result of relief to the tension of certain of the ocular muscles by relaxation of some one or more of them by tenotomy. They show not only remarkable improvement in health, but to one who studies them attentively they exhibit certain characteristic attitudes and expressions of face which have never been accounted for, but the reasons for which become obvious when studied in this relation.*

No. 1 of the first series represents a child, ten years of age, who from infancy had been the victim of headaches. She was feeble, always tired, and rarely free from pain. Attempts to send her to school had proved unsuccessful, for she no sooner attempted attendance than she became prostrated. Under the influence of atropine, hyperopia 0·75 D. was found. She had insufficiency of the externi, 4° with abducting power of 4° (prism). The operation for its relief was made for one eye June 8, 1883, for the other June 12th.

It is needless to tell one who examines these two pictures, taken with an interval of twelve days, that the change was marvelous. The weary, heavy, discouraged aspect of the child, as shown by the portrait of June 8th, is in remarkable contrast with that of June 20th, when vivacity and courage are embodied in her expression. The child returned home to enter school, where she has done excellent work.

The portraits of No. 2 are even more strikingly in contrast, and the history of the case is one of very great interest.

J. B., aged fifteen, was brought for examination, by the advice of Dr. A. H. Allen, on April 17, 1884.

She was in early childhood an intelligent, and in most respects a healthy, child, subject only to nervous attacks. At the age of twelve she became an epileptic, subject to attacks from three to five times a day, which were characterized by severe convulsions and unconsciousness, and lasting from ten to thirty or more minutes. In addition to these severe attacks, the milder seizures of *petit mal* occurred many times a day. Evidences of the deplorable effects of the disease upon the girl's mind were soon manifest. She became dull, morose, and feeble-minded, losing from month to month the vivacity which had characterized her in earlier years. After making use of such means for relief as were suggested by several competent physicians with little or no favorable result, her parents were induced, a year before her first visit to me, to administer in large doses a secret preparation, which proved to be mainly a saturated solution of bromide of ammonium. Dementia, under this treatment, became the most pronounced feature of her disease. The fits were less frequent, and, indeed, were at one time absent during several weeks. It was known, however, that failure to administer the drug for a day or two would be followed by a renewal of the attacks, and, during the two months preceding her visit to me, notwithstanding the use of six drachms of the solution daily (about two hundred and forty grains of bromide), the fits had returned in nearly the former frequency. The face was devoid of any expression of intelligence, and saliva flowed from the angles of her mouth. When attempting to speak in monosyllables, the voice was smothered in the fluids of the mouth. Indeed, the patient presented a typical picture of marked dementia. Her attendants believed that she did not see well, and, as nearly as could be ascertained, there was slight myopia with $\frac{20}{40}$ vision. The eyes being brought under the influence of atropine, the ophthalmoscope revealed hyperopia 1·50 D. There was an appearance of decided insufficiency of the externi, but there was too little intelligence on the part of the patient to admit of any determination by the equilibrium tests. The bromide solution was discontinued at once, and a little wine was administered two or three times daily, and convex glasses, 1·00 D., were used. Under this regime some improvement in the mental and physical condition could be observed after the first week. The fits, however, became more frequent and severe in proportion to her recovery from the influence of the drug. Thus, during the week ending May 3d, there occurred fifteen fits, in each of which unconsciousness continued from ten to thirty minutes. During the week ending May 31st there were twenty-nine very severe attacks, and attacks of *petit mal* in great numbers. By the 29th of May, after almost daily trials, it was hoped that some progress had been made in the knowledge of the relations of the eyes, and it was supposed that an insufficiency of the externi of from 10° to 30° at twenty feet existed while using the convex glasses. With a clear understanding, on the part of the girl's father, of the difficulties attending the determination of precise conditions under the circumstances, and with his full approval, an operation for insufficiency of the externi was done on the right eye June 4th, and two days later a similar operation on the left, after which the appearance of the eyes was improved, and little, if any, insufficiency was shown by the tests, such as could be made. Going back a few days:

June 1st.—She had five fits.

2d.—She had seven fits.

3d.—She had five.

From June 4th (the day of the operation) to *June 14th no attacks occurred.* From June 14th to June 31st she had eight attacks. June 21st to June 28th, three attacks, all of which were unusually light. No *petit mal* since June 4th. On July 7th she returned home, her last attack having occurred June 25th. The change in her mental condition had been, since the operations, truly marvelous, and her physical condition had equally improved. From time to time the patient has been seen. She continued in robust health, and her intellect returned. An attempt to send her to school some months after her return home was followed by a very slight relapse, but her friends were advised to wait a year before allowing her much close use of her eyes.

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* A number of these photographs are to be published, in connection with the English version of the author's memoir presented to the Royal Academy of Medicine of Belgium in 1883, by D. Appleton & Co.

She was last seen September 12, 1885, when she was well.

A letter from her physician a few months since reported her still well.*

No. 3 represents a lad with chorea, and exhibits the ocular conditions fairly well. There was myopic astigmatism of 0·75 D. in each eye, with insufficiency of the interni 5°. Tenotomy of the externus of each eye was followed by very marked relief. He had still a considerable tendency to deviation of the eyes in the vertical line, which, from failure to relieve, continued the irritation in a degree. He has been able, however, to go on with his studies for two years with only occasional trouble. When last seen a few months since he was nervous from over-study, and there were ocular disabilities quite sufficient to account for his trouble.

No. 4 represents a young lady who had been two years an epileptic. Great relief followed the relaxation of the interni, which was done in December, 1884, but from time to time at long intervals the malady has continued to manifest itself. Recently it has been found that a condition of hyperphoria,† which was almost totally latent, existed, and an operation for the relief of this has been attended thus far with very happy results, so far as a general relief from a sense of vertigo, which had continued, is concerned. It is hoped that this may complete the relief, which has already been very great. The portraits exhibit a very marked improvement, but less than has actually taken place in the condition and appearance of the patient up to the present time.

No. 5. Miss M., aged twenty-nine. Subject to epilepsy and chorea from the first year of her life. Epileptic attacks from three to five times daily. Occasionally the fits were of great violence, but usually last only a few minutes. Has never since her first year taken objects in her left hand, that side being most affected by chorea. The left elbow is drawn forward and strongly against the chest, the hand turned palm outward, backward, and upward. The left arm and in less degree the whole body are in constant and violent motion. If an attempt is made to bring the arm into its normal position, the whole body becomes convulsed, the face distorted, and both arms move wildly. The visual anomalies were hyperopic astigmatism, right eye, 1·00 D.; hyperopia, 1·00 D., left; insufficiency of the externi, amounting to diplopia of 5° when red glass was used, and hyperphoria, 2°. The hyperphoria and astigmatism were treated with cylindro-prismatic glasses. Tenotomy of one internus was done under great difficulties, owing to the patient's mental state, November 22, 1884, and of the other, January 3, 1885. Great relief followed the first operation, and the fits ceased from the 1st of December. In a month she was able to use the left hand for the first time in twenty-eight years to a considerable extent, and delighted in showing how she could brush the windows of the consulting-room with a napkin. Her intellect improved, and, as will be seen by the portraits, her head came to the normal position, and her appearance in every respect was better. Up to April 20th, when the last record was made, there had been no return of epilepsy. I have, however, learned that during the summer the fits returned in less frequency and degree. A recent letter from her sister informs me that it is the purpose of her friends to pursue the treatment which resulted so favorably still further as soon as circumstances allow.

No. 6. Miss M., epileptic six years. The position of the head is an excellent illustration of one of the characteristic positions of the head as the result of hyperphoria. The superior rectus of the right eye was relaxed, March 4, 1886. The fits ceased, and the patient's general condition greatly improved, as is shown by the remarkable contrast in the portraits. I have recently learned that the fits have returned. Beyond a doubt a considerable degree of hyperphoria would now be found, which should be relieved. This condition is extremely liable to remain in great degree latent, and to become manifest some months after a full correction is supposed to have been made.

No. 7 represents an interesting case of chorea which had continued during the life-time of the patient, a boy of sixteen. The boy was feeble-minded and incapable of learning. His whole body was in perpetual motion. This is well shown in the photograph taken April 28th, when, notwithstanding the rapidity of modern photography, it was quite too slow to get a clear picture. The shaded borders of the picture show the movements of the head. The same shadings are seen in the first picture in No. 5. The boy had hyperopia 2·50 D., and insufficiency of the interni to the extent of producing, much of the time, homonymous diplopia, which was shown when a red glass was placed before one of his eyes, when the refractive error was corrected. Tenotomy of the left internal rectus was done April 28, 1885, and of the right, May 6th. The change in the boy's condition was marvelous. I am sure that one of the gentlemen who is present to-night, and who saw the boy at the time of one of the operations, will confirm the statement that the photographs do not exaggerate the improvement, nor even adequately represent it. He has had no chorea up to the present time, but when he recently visited me I discovered hyperphoria, which I hope to remove.

No. 8 represents a most remarkable change in the condition of an insane young man. The history of the case is as follows:

The patient was brought to me by his parents bearing a letter from Dr. Wise, Superintendent of Willard Asylum. According to the history given by the parents, October 12, 1886, the boy had been insane a year and ten months (according to the report of neighbors, much longer). During a season of unusual religious interest the boy became unquestionably insane. His condition was gradually more and more hopeless until his friends determined to commit him to the asylum. It was when at this institution that they were advised by Dr. Wise to take the patient to New York. When first seen he was stolid, refusing to speak, and sadly demented. He wept aloud and wrung his hands much of the time. He refused food, and indeed for many months had only taken it as it had been placed in his mouth by others. If standing, he held his arms out in an imbecile manner with the fingers spread apart. The saliva flowed in streams from his mouth to the floor. He was thin and pale, and a cold moisture covered the skin. In this pitiable condition it was difficult to obtain exact information of the ocular conditions, but by the exercise of much patience these conditions were sufficiently made out to enable a generally correct judgment to be formed. Under atropine he showed hyperopia 1·00 D., with insufficiency of the externi 4°. On the 14th of October the first photograph was taken, and on the same day a tenotomy of one of the internal recti was done, and two days later a similar operation was made on the opposite internus. From that day an improvement could be seen in the lad's mental state. Within a week he was so much improved as to amaze those who had seen him in his first condition. He soon began to take food of his own accord, and in two weeks he was in a fair way to complete recovery. On November 2d the second photograph was taken, eighteen days after the first, and three weeks from the day of his first visit he returned to his home, no longer insane. His friends were advised to bring him again after a few weeks, which they wisely did. Slight hyperphoria was then found, and a tenotomy of one of the superior recti was then done. When he returned home the second time he was, so far as could be detected, perfectly well.

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* Since this paper was read, I have heard that the patient has suffered a relapse. If the report is true, of which there is a doubt, it indicates that the ocular trouble has not been completely removed.

† The term *hyperphoria* is employed in the absence of any other single term to express a tendency less than strabismus of a visual line in a direction above its fellow. Thus, "right hyperphoria" signifies that the visual line of the right eye tends in a direction above the direction of the visual line of the left eye, without implying that the line to which it applies is too high, but that it is higher than the other, without indicating which may be at fault. See "New York Medical Journal," December 4, 1886; "Archives d'ophthalmologie" (Paris), November, 1886.

All tests for insufficiencies of the muscles of the eyes were made at twenty feet.

The photographs show more than I am able to tell, but even they do not convey a perfect idea of the wonderful revolution which had taken place in the mental and physical condition of the boy in eighteen days.

Dr. A. L. Ranney has very kindly permitted me to add to the photographs of my own cases those of one of his. The pictures represent a young lady who had been for many years an epileptic and for whom he has wrought a most salutary change by relief to the ocular muscle strain. Dr. Ranney tells me that the young lady has remained well during seven months, notwithstanding she had been subject to convulsions, amounting frequently to ten or more in a day. The portraits speak for themselves. The young lady has undoubtedly improved in a remarkable manner, and we do not need his testimony, that the epilepsy has ceased, to recognize the fact of her improvement.

The illustrations thus far have been drawn from my private practice. Those which follow are from cases treated in a public asylum. During the last summer I spent four weeks at a summer hotel in the vicinity of the Willard Asylum for the Insane, and, at the request of the superintendent, examined and treated several of the patients, fourteen in all, twelve of whom were insane epileptics, one an out-door patient, a cataleptic, and one a non-epileptic maniac. I visited the asylum frequently during the four weeks, spending about two hours with the patients at each visit. It is proper to remark that this institution is designed as an asylum for incurables, its inmates consisting principally of insane persons who have already spent considerable time in other asylums where acute cases are treated, and who have been sent here in order to make room for more hopeful subjects.

In correspondence with Dr. Wise previous to taking charge of these people, the wish was expressed by me that only such cases should be selected as were, in his judgment, typical cases of epilepsy of the insane and by ordinary methods absolutely incurable. The more frequent the attacks and the longer the duration of the disease, the more desirable would be the case. Intelligence enough to read printed letters and to answer very simple questions was considered desirable. Of the fourteen patients selected, all except the cataleptic case were in a condition of more or less profound dementia, twelve were cases in which very frequent attacks of epilepsy were associated with more or less frequent paroxysms of frenzy, and all of these were cases in which both insanity and epilepsy had existed during many years. The average length of time of attendance upon these patients was a little more than two weeks.

Dr. Wise kindly promised me he would furnish me with a preliminary report showing the condition of these people a month after the conclusion of my attendance, and that another more complete should follow after several months. The first of these came to hand in October last. The other has not been received, and I have no report of the condition of these patients, with a single exception, since that time. I shall not attempt to give Dr. Wise's report in full, but will furnish a few extracts from it and give its substance. Dr. Wise reports:

"Case I.—F. C., aged twenty-six. Admitted February 6, 1885, with a history of epilepsy of sixteen years preceding admission. She has almost daily attacks of *petit mal* and occasionally severe fits. She has alternate periods of excitement and depression, when she is suicidal and has made several attempts to destroy herself. She is discontented, but usually she is quiet. On July 7th all medicine was stopped and a record of her convulsions kept. The following is copied from the record. July 7th, two light convulsions; 10th, one convulsion, light; 11th, one convulsion; 13th, one severe, two light convulsions; 15th, one; 16th, one; 18th, three, one severe and two light; 20th, three convulsions; 21st, one; August 2d, one; 7th, one; 9th, five severe convulsions. The first operation was made August 3d, and final August 12th. [The operations were for hyperphoria, by tenotomy of a superior rectus of one eye and afterward of the inferior rectus of the other eye.—G. T. S.] Subsequently to the last operation she had a severe convulsion on August 20th, and none later, with the exception of a *petit mal* on September 9th within the thirty days following the final operation."

In other words, she had twenty-three convulsions for thirty days preceding the operation, and two for the thirty days following it.

"Her general health has improved, and Dr. Bristol, her attending physician, reports: 'She is less irritable and fault-finding, and has not suffered from depression in the same degree as formerly.'"

Of the report of

Case II I give only a summary. Woman aged fifty-two, epileptic fifteen years, insane many years. Bromides stopped July 9th. During the next thirty days she had fifteen convulsions. Tenotomy of superior rectus was made for correction of 2° hyperphoria, and during the thirty days succeeding the operation there were seven convulsions.

Case IV was an interesting one, as belonging perhaps to the most utterly hopeless class that could be selected. It was about a week from the time that his name was given me as a bad epileptic case before he was able to leave his bed, as he was in a constant state of epilepsy. When finally he was seen he was pale, his skin cold and moist, his face utterly expressionless, the saliva ran from his lips, and he presented the most pitiable spectacle of dementia. In making ocular tests, I supported his chin in my hand as the only means of maintaining any approximation to an upright position of the head. No very marked refractive anomalies were found, but a tending of one visual line above the other constituted the principal ocular defect. The operation was for the correction of hyperphoria of 3° by tenotomy of a superior rectus. I quote from Dr. Wise's report: "A. C., male, aged twenty-four. Second admission to asylum, February, 1886. Has frequent epileptic attacks and occasional status epilepticus. Is frequently violent, turbulent, and noisy. From July 14th to 16th he was excited and confused. He had two convulsions on July 21st, three on the 23d, two on the 24th, two on the 25th, two on the 29th, four on August 1st, four on the 3d. Then followed a period of confusion and excitement lasting several days. He again had two convulsions on the 12th and three on the 13th of August. His bromide of sodium was stopped on August 11th. On the 14th he was operated upon. From that time until September 23d (forty days) he was not observed in a convulsion. His mind became brighter, and he seemed to appreciate his condition and surroundings. From that time to date he has been in a status epilepticus, but is now improving. Dr. Blaine, his attending physician, considers that his eyes have reverted to their former position from which they were relieved by the operation."

Here we have doubtless another instance in which manifest hyperphoria having been relieved, that which was latent afterward became an element of trouble.

Time will only permit me to present one other case of this group in detail. I condense from notes given me by Dr. Allison, the attending physician, and from Dr. Wise's report:

"M. L., female, aged thirty-six. Insanity commenced seven years previous to present record. Subject to epilepsy for an unknown period; certainly longer than the period of insanity. About once a month she is taken with a series of epileptic seizures varying from three to eight or more, and at these times is liable to become greatly excited, depending apparently on the number of convulsions. A period of great exaltation and frenzy follows, during which she is furious, sings wildly, and shouts at the top of her voice, and is exceedingly destructive and violent. The paroxysm may last several weeks. When it has subsided she is orderly, neat, and industrious usually, until another series of convulsions occurs. She was first seen by me July 31, 1886. Examination of the eyes showed, with atropine, hyperopia, 4·00 D.; right hyperphoria of from 2° to 3°; and insufficiency of the externi of 4°, with abduction of 4°. Glasses for the correction of the refractive defect were furnished, and tenotomy of the right superior rectus and of the left internal rectus was made. The final operation was made August 22d. Bromides, which had been previously freely administered, were withdrawn July 31st. August 26th, four days after the last operation, a period of moderate excitement, very much less than usual, commenced and continued until September 12th. On January 2, 1887, more than four months after the ocular treatment, Dr. Allison wrote concerning Miss L.: 'She has not thus far had any attacks of maniacal frenzy and only one attack (the one above mentioned) of excitement, which was not great. She says she has not had any convulsions; she is very much improved, and feels very grateful.'"

Taking conjointly Dr. Wise's report and my own notes made at the asylum as a basis of reckoning, it would appear that among the ten epileptics in whom ocular tests could be made there occurred during the month preceding the operations upon the eyes about one hundred and seventy convulsions, besides several periods of status epilepticus. During the month following the operations there occurred to the same persons about forty epileptic attacks and two conditions of epileptic status. In other words, there was more than four times as much epilepsy among these ten during the month preceding than in the month succeeding the operations, notwithstanding the withdrawal of bromides.

When it is remembered that the time during which attention was given to the ocular conditions was less than the average time usually given by physicians to comparatively trifling affections, these results must be considered not only remarkable but absolutely unique.

It will be asked, in what proportion are we to expect good results from attention given to ocular conditions in nervous diseases? Taking epilepsy, which is undoubtedly one of the highest manifestations of nervous disturbances and certainly one of the least curable of diseases by medication, I find the following results: Of sixty-four consecutive cases of well-marked epilepsy in private practice, of which in every instance the disease had been of more than one and in most of many years' duration, and in all of which the treatment has been directed to ocular conditions, medicines having been, except in a single instance, discontinued, thirty-two have remained free from attacks for a time varying from several months to several years*—a time which would in all ordinary conditions enable us to regard the cases as well. Twenty-one have shown under this treatment such marked improvements as to indicate with certainty that the ocular conditions and the disease were in relation as cause and effect. In some of these cases the change has been very remarkable, but short of absolute relief. In eleven cases no improvement has occurred, or, if any, of only a temporary character. Thus, without the employment of drugs to destroy the nervous susceptibility to irritating causes, 50 per cent. of these patients are, so far as can be known, well; another large proportion much better off than when using bromides, while only 17 per cent. show no improvement.

Are we to conclude that in one sixth of these cases the ocular conditions have no relations to the disease? I am sure that we are not. A better understanding of the means of forming a judgment in this respect will be had if it is stated that, so far as my experience goes, epilepsy very rarely results from simple conditions. The ocular anomalies in epilepsy are of the most complicated and often of the most obscure character. A simple insufficiency may induce headache or other minor manifestations, but the ocular causes of epilepsy are usually of a character most perplexing to the surgeon, and sometimes of a character which can not be completely remedied. Hence great patience and, in certain cases, much time and skill are required to accomplish that which can finally be done. If in the mean time the patient and his friends are constantly assured by both lay and professional advisers that his efforts must of necessity prove fruitless, he is apt to withdraw from treatment even while defects of great importance are known to exist and which by continued effort might be removed.

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* Several of these patients have remained well for a period of from five to seven years.

Again, the extremely complicated state of muscular anomalies in epilepsy has, in my own experience, led to procedures which have resulted in new anomalies quite as mischievous as those which it was hoped to remove. A larger experience and a better knowledge of these complications are, as I believe, helping me to avoid some of these accidents; but it is to these in several instances that the failure of success is to be attributed.

It is reasonable to inquire whether results obtained in this way are permanent. In reply to this it may be said that they are permanent in proportion to the extent to which the irritating cause is removed. In this respect relief to anomalies of the ocular muscles obeys the same law as governs in anomalies of refraction. The young person who corrects a manifest hyperopia obtains relief from asthenopia for a time, but when after a while the trouble returns he is relieved by further correction of that which has since become manifest. Or, better still, by means of certain agents his absolute hyperopia is discovered at once and proper corrections are made from the first. This is not at present possible in excessive tensions of the long muscles, and we must wait for time to enable us to form a correct judgment whether the whole defect has been removed. A sudden and marked relief to a serious and obstinate nervous trouble after a removal of an anomaly of the ocular muscles is sufficient to indicate that the reason for the malady has been found. If a relapse occurs after many months, it is quite reasonable to look in the same direction for the cause of the renewal of the trouble.

The president has kindly requested me to state to the society how much of importance I attribute to this class of conditions, and also to give a summary of my methods of procedure in examining for them and in treating them. I will endeavor to give in as short a space as possible an outline of a reply to both inquiries. Respecting the importance to be attributed to ocular, refractive, and muscular anomalies, I fear that my views will for some time to come continue to be regarded as something more than radical; but I am ready to reaffirm the proposition made years ago, that, among the various elements constituting the neuropathic tendency, these anomalies must be regarded as occupying a pre-eminent position.

Summing up the experience in this field of work, it is shown that, not in occasional and rare instances only, but in a large proportion of cases of the most redoubtable neuroses, unusual and most salutary results may be anticipated from attention directed to visual troubles. The accuracy of this statement is fully confirmed by the portraits which have been exhibited here, and which clearly show that the disease has not been suppressed. The relief is the legitimate result of the removal of an adequate cause, and the patient, under such circumstances, at once rises into a physical and mental condition greatly in contrast with that which results from the prolonged methods of suppression, such as brominism or other similar means.

While wishing to emphasize the importance of these experiences, may I not be pardoned for repeating the statement that it is not intended in any way to underestimate or to forget other causes of irritation or exhaustion, or the propriety of searching for and of removing them?

The principle of ocular irritation is of wide application, and is not to be compared with the occasional irritation set up by such accidental and usually secondary causes as phymosis, the presence of calculus, the existence of a stricture of a passage, the effects of decayed teeth, and of many other peripheral irritations which might be mentioned. All these are of importance and are not to be overlooked.

The conditions to which I have especially called attention are, however, in general, commensurate with the life of the patient and exist in a vastly greater number of instances than either or all of the conditions belonging to the other class just mentioned. Not only are those painful or irregular conditions usually described as neuroses in great proportion responsive to the relief from ocular tensions, but a great variety of conditions commonly regarded as local affections yield as readily, and prove that with some possible local complications they are in fact reflex phenomena. As an instance of this class of troubles, I may mention the fact that in more than a score of cases of extreme dysmenorrhœa—in each of which the periodical suffering has been of intense character, of regular occurrence, and of the full duration of the menstrual life of the patient—the dysmenorrhœa has failed to occur after relief to the tension of a superior or inferior rectus.

These experiences have been confirmed by the observations and practice of others. Among these, Dr. A. L. Ranney, who has made many careful observations and has had much success in the treatment of many of the most important neuroses, has assured me that cases of epilepsy of long duration have, under treatment directed to ocular difficulties, been scarcely less tractable than diseases commonly regarded as easily curable.

The discussion of the method of examination and treatment must of necessity be in outline only. In respect to examinations for refractive anomalies I have nothing here to suggest. In respect to muscular anomalies, however, there is much more to be said than can even be touched upon here.

First let me suggest that the methods of determination of muscular anomalies taught by Graefe, Horner, and Nagle can not be most successfully employed in the work directed to these nervous disorders. Graefe's Method No. 3 is a method for determining equilibrium of ocular muscles by which it would be but rarely safe to perform an operation for the relief of a supposed deviating tendency.

In articles which appeared in a recent number of the

"New York Medical Journal" and in the "Archives d'ophthalmologie," I have made general suggestions for making these determinations. For the purpose of going more into detail, I shall ask to be allowed to go over a part of the same ground.

The head being exactly in the primary position, the patient directs the eyes to an object, preferably a lighted candle, situated at twenty feet and directly in the median line. Diplopia (if the patient has binocular vision) is then produced by means of prisms. First of all, and the order of making the various tests is important, homonymous diplopia is induced by placing the prism with its base toward the nose. For convenience and accuracy in making this test, I have had made for me several pairs of spectacles containing, in each side, prisms of equal grade, of 5°, 6°, and 7°, with their base in. The glasses are quite long and in the form of a parallelogram, in order that their exact position on the face may be accurately known. In order that the head may be maintained in the exact position desired, I employ a photographer's head-rest. Double images appearing, if one is seen to be higher than the other, it is to be ascertained what degree of prism with its base up or down will bring the two to the same plane. A difference of one half or even one third of a degree in this direction is of much importance. When the determination is made, it is, if a difference in plane is found, recorded as right or left hyperphoria. A prism of 6° or 7°, or of higher grade if necessary, is then placed in the trial-frame with its base exactly down or up, and tests similar to those described by Graefe for the dot-and-line method are made. The deviation of the images from a vertical line, if a deviation exists, is determined by the degree of prism required to correct, and also the full degree of correction which will be tolerated. The result is recorded as esophoria or exophoria. Beginning next with a moderately high grade of prism (8° or 9°), it is placed with the base in and the patient is required to tell whether diplopia is caused. If so, a weaker and weaker glass is used until he can blend the images, and the result is recorded as the amount of abducting power. The abducting power is next to be tried which may require the use of several prisms.

I can not accept the method introduced by Nagle and adopted by Landolt, in his recent superb work, of reckoning the abducting and adducting power as only negative and positive elements of the same act of convergence, and of adding them together as so much convergence. The abducting power is a subject for special examination and should never be confounded with the adducting power. This latter may well range from 40° to 70°, or even more. For many years I have adopted as the best standard of adducting 50°, but one who can overcome prisms of 50° will generally do much more—60° or 70°.

And all this is within the limits of easy convergence. On the other hand, the power of abduction should be confined within very strict limits. My own standard has for twelve years past been 8°. Two or three degrees less than this is an unfavorable condition, and more tends to the suspicion of insufficiency of the interni. Hence, where on the one hand a variation of from ten to twenty degrees is of no account, and on the other a departure from the proper standard of a single degree may be of very great consequence, we are not to consider the two conditions as one.

Of the anomalies found by these examinations I regard that which I have called hyperphoria as of by far the greatest importance. Here a single degree of deviation from the equilibrium may be a source of greater perplexity than 10° or 15° of insufficiency of the interni.

It is impossible to go into all details of questions of dealing with the deviating tendencies which may be found by these examinations; a general statement may, however, suffice to obtain for it the disapproval of many conservative persons. Treatment of muscular deviating tendencies by means of prismatic spectacles is neither satisfactory nor frequently successful. I do not mean that success is never attained, but that in much the largest proportion of cases it can not be attained by such means. Again, such spectacles are not curative, and it would be a mistake to condemn a patient, who did not otherwise require glasses, to their use for years, when a much more complete relief could be accomplished with scarcely an inconvenience of a day.

This, however, is too large a subject to discuss here, and I shall at once proceed to describe the method of performing tenotomy of the ocular muscles in case of deviations less than strabismus.

[Here followed a minute description of the speaker's method, which will appear in another connection. In the main it consists of making a small opening through the conjunctiva, exactly over the insertion of the tendon, when the tendon is seized by extremely fine forceps, and divided in each direction, preserving the extreme outer fibers, or, at least, the reflection of the capsule of Tenon, which serves as an auxiliary attachment.]

I think it not unreasonable to look for the future advance in medical practice along two great lines. That advance along one of these lines was begun when Jenner, recognizing the fact that the human subject may be made sterile to the development of certain organisms when once it has been preoccupied by the presence of the same or a similar class of organisms, introduced vaccination as a preventive of one of the greatest scourges of the race. In our day an army of investigators, well trained and well equipped, is exploring the realms of the minute in search of the micro-organisms which, in their invasions in swarming myriads within the human body, threaten or destroy it by their devastations. It is not impossible that, against the inroads of the various organisms whose incursions constitute typhoid and typhus, scarlet fever and measles, cholera and yellow fever, barriers may be erected which shall in large measure protect against that class of maladies which now destroys so large a proportion of the population of the world. The advances which have already been made along that line are, doubtless, but the earnest of that which is to come.

Along the other line we may look for as great achievements. The class of maladies which has been during all time relegated to the tender mercies of fetichism and superstitious notions of cures by drugs having no relations to the origin or the nature of the disorders themselves, will ere long be regarded as irregular phenomena resulting from well-defined causes of irritation, which causes must be sought for principally in the direction of difficulties in the performance of necessary functions. With the removal of such difficulties we may look with confident expectation to the cessation of the peculiar irregularity which constitutes the special form of nervous disease. Through such means we may reasonably expect that the great class of functional nervous troubles of which epilepsy and insanity, neuralgia and hysteria may be regarded as representatives will be nearly as effectually guarded against as is small-pox by vaccination. And not only will the relief to such disorders be sought in the removal of an irritating cause, but, as in vaccination precautionary measures are taken before the subject has been exposed to immediate danger, so will the working organs be tested in respect to their working capacity in order that every disability may, so far as it is possible, be removed. Principal among these testings will be that which relates to the organs of vision. The child who enters school will, before the organs upon which he is to depend for his advancement in study are exhausted, and perhaps permanently injured, be examined, and provision will be made that he may not be required to contend against needless frictions and difficulties. Such examinations will not be of the perfunctory sort which one may make by directing the subject of examination to read the letters upon a trial-card, or which the examiner may make by a glance through an ophthalmoscope. That a thorough system of examinations of the visual organs, pursued as universally as the practice of vaccination, attended by the precautionary measures which would thereby be seen to be required, would reduce the prevalence of nervous affections in a surprising degree, I can not for a moment doubt.

If it be said that the origin and prevention of nervous diseases is to be found in a great variety of circumstances, I reply: let us find them all, and adapt our measures to them all; but let us not neglect this because there may be others.

For myself, I do not think that another as important class of causes of nervous disturbance will be found as that which attends the anomalies of the parts engaged in the performance of the visual function. In any case, our aim is to prevent the evils of nervous derangement by the early removal of any known mischievous tendency, and our duty is, when such nervous derangement actually occurs, to remove every perplexing cause. In the observance of such a principle we may leave to superstition and to ignorance the practice of expelling nervous diseases by means either fashionable or obsolete.

A Portrait of Dr. Robert Koch has been sent us by Messrs. Parke, Davis, & Co., of Detroit, who inform us that they will be happy to mail a copy of the same to any of our readers who may apply to them for the same.

A Correction.—In the editorial article entitled "The Specific Gravity of Human Blood in Health," published in our last issue, a slip of the pen was overlooked which involved the following statement: "As it emerges, if it is heavier than the solution, it will rise; if it is lighter, it will sink." The words "rise" and "sink" should have been transposed, as every reader of the article has doubtless perceived.

"EYE-STRAIN" IN ITS RELATIONS TO NEUROLOGY.*

By AMBROSE L. RANNEY, M. D.,

PROFESSOR OF THE ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL, AND OF NERVOUS AND MENTAL DISEASES IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT.

Following the exhibition of a series of photographs of cases which have been shown this evening, it seems to me that little needs to be said in confirmation of the views advanced by Dr. Stevens. These photographs are so startling that they would be accepted, in my opinion, in any court of justice by an unprejudiced jury, as proof that unmistakable benefits had been derived from the treatment. They are from untouched negatives, made with no collusion between the patient and the doctor, or the doctor and the photographer. They tell their own story in a simple way, which needs no comment from me. I have personally seen and examined several of these cases, and I consider the published histories as decidedly understated.

As I have been specially invited, both by the author of the paper and by your esteemed president, to give my views here this evening, it may not be inappropriate for me to state that I have performed the Stevens operation for the relief of ocular insufficiency nearly two hundred times, and have carefully observed the condition of refraction and accommodation, as well as that of the ocular muscles, in several hundred subjects afflicted with various forms of nervous diseases. In the tests made I have followed very closely the methods employed by the author of the paper of the evening.

I desire to say here that I do not pretend to speak as an oculist, but as a neurologist. I am not here to discuss the points that may be raised by the ophthalmologists present. I have simply learned (as every neurologist should do) the details of a method designed for the purpose of diagnosis and treatment of refractive and muscular anomalies, and I have uninterruptedly followed that method in nearly every case seen by me in my office for the past two years. I can here state that originally I was a skeptic. My skepticism, however, became no longer tenable when I saw a choreic and epileptic imbecile in Dr. Stevens's office, who was perfectly restored in a short time to health and mental sanity by the method described by the author of the paper of the evening.

I think this paper will tend to establish *a new era in neurology*. For the treatment of functional nervous disease I should feel myself unfitted to-day without my case of trial-glasses and prisms.

In reference to the *operation* described, I would remark that in no case have I observed any bad effects as the result of surgical interference, or complications which have caused me any anxiety. This line of treatment requires a careful regard for detail, accurate records of all observations made, and special skill derived from experience and close observation to insure satisfactory results. If properly followed, I know of no line of treatment which has yielded such startling results in functional nervous diseases. If employed by a novice, it is not hard to understand how serious difficulties might arise.

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* This paper comprises the substance of my remarks made before the Neurological Society of New York, in the discussion which followed the paper prepared by Dr. George T. Stevens, of New York, entitled "Irritations arising from the Visual Apparatus considered as Elements in the Genesis of Neuroses," and read by invitation before that society, on March 1, 1887.

Respecting the view that the *eye* is an important factor in creating and prolonging the so-called "*neuropathic predisposition*," the following facts are pertinent:

1. No one has yet shown in what this predisposition lies; hence, if Dr. Stevens has shown that eye-defect is an important element in these conditions, a great advance has been made.
2. There is no recognized pathology in functional nervous diseases.
3. Heredity is very common in these affections. It is one of the most marked features in this class of nervous diseases.
4. My records (in common with those of Dr. Stevens) go to show that eye-defect is found in a very large proportion of such subjects.
5. Many of the eye-defects found can be shown to be congenital—being inherited, like other facial peculiarities.
6. The manifestations of the neuropathic predisposition vary with each case. They are called forth often by extremely trivial circumstances. These are too frequently regarded as of great clinical interest.

In the treatment of the *severer forms of functional nervous disease* (for example, in a typical case of chronic epilepsy), one radical cure without the aid of drugs offsets a thousand failures as a proof of the scientific value of a discovery. Let us see how the paper stands in this respect:

1. Radical cures of epilepsy have been reported. In Dr. Stevens's experience seven patients have been free from epileptic seizures for more than five years, after tenotomy of the eye-muscles and without the aid of medication. Such a result can not be attributed by fair-minded critics to the effect of chance or accident.
2. Dr. Wise's report of the work in the Willard Asylum (with the light thrown upon it by Dr. Stevens) is a remarkable record. In spite of the cessation of the bromides and all medicinal treatment, in twelve cases of chronic epileptic insanity the attacks were decreased over seventy-five per cent. during the month following the operations. No unbiased person can fail to see the great disadvantages which existed in treating the hopeless cases of those whose answers could not be relied upon when tests were being made, and whose treatment was of necessity crude and incompleted (Dr. Stevens's stay being of very short duration). It must also be borne in mind that an incomplete relief of ocular tension, made under such disadvantageous circumstances, would naturally be liable to be followed by relapses. If one patient so treated made a perfect recovery, it is the strongest evidence in favor of the necessity for operation.
3. My own experience in the treatment of epilepsy by this method has yielded very satisfactory results.

I have taken from my own record-book the following abstract of cases of epilepsy, treated by me in private practice during the past year and a half. Total number of cases = sixteen. In only two were both eyes emmetropic; in nine, hyperopia or hyperopic astigmatism existed; in five, myopia or myopic astigmatism was found. In only one case was no defect in the eye-muscles found. Insufficiency of the interni (*exophoria*) was not detected in a single instance. Esophoria and hyperphoria predominated. In nine, the mental powers were very markedly impaired. Of these sixteen patients, five refused operation; one was sent to an asylum; one, whose trouble was due to syphilis, recovered under specific treatment; one was too young to make the tests sufficiently reliable to warrant surgical interference; and eight were operated upon by me. Of these eight, three are apparently cured and five are still under treatment. Two have had no fits for over one year. One of these averaged at times as high as ten seizures in a day before I operated upon the eye-muscles. In every one of the five cases still under my observation the attacks have been lessened, in spite of the fact that no medication has been allowed since the date of the operation. One patient has granular kidneys, and the four others bid fair to improve still further, if not to recover entirely. Photographs of one of these are shown you to-night with permission. This young lady is well known to some of the medical gentlemen who are present. She has enjoyed from time to time the skillful services of many of the best neurologists and oculists in this city, who have done all that science could do for her, except to divide her interni and left inferior recti muscles. After ceasing the administration of bromides some two years ago, she had seventeen severe attacks in one night.

One case of *neurasthenia*, with mental symptoms closely bordering on insanity, was completely cured by me through the relief of a high degree of insufficiency of the externi and the correction of a latent hyperopia of about two dioptres. Another subject of neurasthenia, with recurring attacks of severe gastralgia, palpitation of the heart, and frequent symptoms of impending suffocation of sixteen years' standing, is to-day apparently cured by tenotomy of the externi. For many years she had not been able to spend evenings in company, or often with her immediate family, on account of the excitement induced by so doing. She had more or less constant tremor, which immediately ceased after the operation.

In cases of *headache* and *neuralgia*, I have had some very remarkable results follow tenotomy of the eye-muscles. I have never yet encountered a case of typical migraine in which some form of eye-defect did not exist.

In *chorea*, I have found that hyperopia and muscular defect in the orbit existed in a very large proportion of the cases examined by me. The externi have been generally insufficient, or hyperphoria has existed in addition to a refractive error. The interni have never been defective in any case which has come under my personal observation, as far as I can recollect.

In *hysteria* and *hystero-epilepsy*, I have had some very satisfactory results from tenotomies performed upon the eye-muscles. One patient, who could with difficulty get across a room when unaided, walked three quarters of a mile soon after a hyperphoria was corrected by a tenotomy of the left inferior rectus, and a free division of both the externi was performed. At first she was carried each day to my office by hired assistants; to-day she walks daily up and down five flights of stairs, in addition to a walk of from ten to eighteen city blocks.

In summary, I would present the following conclusions as the result of uninterrupted investigations in this field for the past two years or more upon subjects afflicted with nervous diseases:

1. I believe that eye-defect constitutes a very important factor in the so-called "neuropathic predisposition." It is not pretended that it is present in all cases.
2. In neurology the importance of this line of investigation is particularly marked in the so-called "functional" diseases.
3. I am satisfied that "latent" insufficiency exists in many cases, as well as latent hyperopia, which is to-day generally recognized. There are many indisputable facts which confirm this proposition.
4. We have no means of accurately determining, in any given case, the exact amount of abnormal tension which needs correction, as we can do in the case of latent refractive errors by atropine.
5. I believe that tenotomy of the eye-muscles by the Stevens method is a safe and satisfactory way of relieving abnormal tension if practiced by competent experts.
6. Prisms will not meet the requirements of many cases. I regard them, at best, as but a temporary makeshift.
7. A tendency to vertical deviations of the visual axes is of great clinical importance in nervous diseases.
8. Tests for the determination of muscular errors should be made at a distance of twenty feet, in case operative procedures are to be based upon the error detected.
9. The attitude of the head of the patient should be carefully regarded while making these tests. A head-rest is of great value, in many cases, as an aid in making the tests.
10. Statistics show quite conclusively that the benefits derived from tenotomies performed upon the eye-muscles are permanent *when all errors are thoroughly rectified.* No case is to be considered as finally disposed of so long as muscular errors in the orbit are clearly shown to exist. If a relapse occurs, it is generally safe to presume that a renewed search will enable a competent observer to detect some errors which the patient did not exhibit when under observation. The existence of "latent" insufficiency explains how such relapses may occur.
11. It can be shown that repeated tenotomies do not impair the normal functions of the eye-muscles when a proper interval is allowed to elapse for a firm union of the divided tendon to the globe.
12. I believe that a careful regard to the details of the Stevens method of examination and operation, a thorough knowledge of physiological optics, and a full record of the results of every examination made of a patient's eyes (combined with good common sense), will give equally good results in other competent hands as in those of its main supporters.

ON THE VALUE OF ELECTRICITY IN THE TREATMENT OF EPILEPSY,

BASED ON THE STUDY OF TWENTY-EIGHT CASES.[*]

By A. D. ROCKWELL, M. D.

If I were asked whether, under any circumstances, electricity alone was capable of curing epilepsy, my answer would necessarily be exceedingly doubtful, but, although I have neither personally known or heard of a case being thus cured, I am not by any means prepared to say that such a result is impossible or even highly improbable. If, on the contrary, I were asked whether I believed that electricity was of any value in the treatment of this disease, I should unhesitatingly and confidently answer in the affirmative. My experience would lead me to go even further than this, and to say that a certain proportion of patients failing to receive more than temporary benefit from the bromides may entirely recover when the treatment has been re-enforced by judicious and persistent applications of electricity. What this proportion is must be a question for further and more general investigation. It would seem to be an easy thing to arrive at correct conclusions in regard to the relative efficacy of remedies in the treatment of individual diseases, but those who have, with much labor and careful analysis, endeavored to establish any important therapeutic truth, know full well the obstacles in the way.

There may be, for example, some one remedy that, above and beyond all others, can be relied upon for the cure of chorea. If so, it has yet to be found, notwithstanding the strong testimony in favor of and the undoubted benefit that often follows the administration of arsenic. The surprising lack of unanimity of opinion in regard to the treatment of chorea is without question due to the fact that in the majority of acute choreic cases recovery is sure to take place under favorable hygienic surroundings alone. My own observations in regard to the undoubted value of electricity in chorea have been confined to chronic cases alone, enabling me to say, and with far greater assurance than when speaking of epilepsy, that electricity will certainly cure many cases after the failure of other methods of treatment. Epilepsy is not, like chorea, frequently self-curative, and has not therefore so many competitors for the honor of its relief. The bromides, of course, hold the first place, but are by no means the only remedies for which important pretensions are made. The literature of the subject teems with suggestions and statements in regard to the good that may come from a score of different remedies. Many of these remedies are undoubtedly of value in dealing with epilepsy, not only decreasing the frequency and alleviating the severity of the attacks, but in some cases perhaps effecting an absolute cure. Among these remedies electricity has been found to act favorably on the epileptic seizures; but what should more especially entitle it to consideration in this direction, and incite to more careful testing of its powers, is the statement that I make in regard to its efficacy in certain cases in connection with other and more generally approved remedies, after these remedies alone have failed to give more than temporary relief. In some most excellent remarks made long ago on the treatment of epilepsy, Dr. Meredith Clymer stated that he had never heard of a permanent cure of the disease under the use of the bromides, either alone or in combination; and so careful and experienced an observer as Dr. J. Hughes Bennett declares that he has no personal statistical evidence to offer in proof of the curability of epilepsy by the bromides. In the absence of positive proof that prolonged use of the bromides may thoroughly eradicate the disease, the most cheering observation he has to make is that it is entirely possible that such may be the case. While we may regard the first of these statements at least as extreme, the suggestion that the best results will follow only when we call to our aid every measure that will tend to develop vital power generally commends itself to all. It is not alone, therefore, on the theory of a special influence on the nerve-centers or over the cerebral circulation that we employ electricity as an adjunct to the bromides, but also because of its undoubted powerful constitutional effects. Above all, it is a tonic, and yet its therapeutic range is wide enough to include both stimulating and sedative effects. I can not but regard as both interesting and suggestive certain observations concerning the similarity of effect between the bromides and central galvanization and general faradization. Accepting the theory that a state of cerebral anæmia predisposes to sleep, it is not very difficult to believe that the feeling of drowsiness that so often follows central galvanization, and even general faradization, when specially directed to the cervical ganglion, is due to the influence of the current on the vaso-motor nerves.

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[*] Read before the New York Academy of Medicine, March 3, 1887.

In some cases sound sleep has for a few moments been induced with the subject in an upright position while receiving the current through the brain. I recall several instances where, under treatment by central galvanization, patients were repeatedly put to sleep within a minute after the beginning of the application.

Theoretically speaking, there are indications for the use of electricity in epilepsy other than its general tonic influence, or its effects upon the circulation.

Idiopathic epilepsy consists, undoubtedly, in an increased excitability of certain portions of the cerebro-spinal centers.

It may be supposed that the nutrition of certain nerve-cells becomes altered, but this change is, in all probability, dynamical rather than physical, and therefore the microscope would be as useless in detecting differences between normal cells and those possessing excessive reflex excitability as it would be to demonstrate the difference between the native steel and the powerful magnet. An important indication, then, for the use of electricity in epilepsy is this very superexcitability of nerve-cells. We know that the galvanic current directly affects the brain. We fully appreciate its anelectrotonic effect upon peripheral nerves, and must be ready to admit the possibility of its affecting in the same way the nerve-centers. These theoretical considerations I have, so far as possible, endeavored to submit to practical tests, and I am quite convinced that this abnormal superexcitability that is so characteristic of epilepsy is in some cases held in check by the action of the galvanic current as readily as by the bromides themselves.

In several cases of *petit mal*, especially, I have observed that applications of the galvanic current to the cervical ganglia of the sympathetic had precisely the same effect in interrupting temporarily the frequency of the paroxysms as the bromide of potassium.

In 1878 I read before the Medical Society of the County of New York a paper on this topic, in which were recorded several cases of epilepsy where recovery was apparently greatly aided by electricity. One of the most interesting of those cases, which I saw in connection with Dr. George Fisher, of Poughkeepsie, who had treated it continuously for four years before it came under my care, had a history subsequent to my recital of the case that deserves to be recorded, the whole history, as will be seen, extending over a period of fifteen years:

This patient had had her first attack in 1872, at the age ot twenty-six, but for a year previously she had been much of the time in a dazed condition, with great confusion of memory.

From this time until 1876 the attacks had occurred at the average interval of about a month, when, instead of a single seizure, she would have several within twenty-four or forty-eight hours. These attacks had occurred invariably at night. For four years she had been under a thorough bromide treatment, but, notwithstanding, she had for some time before the substitution, or rather the addition, of the electrical treatment, grown decidedly worse, both as to her mind and the frequency of the epileptic seizures. She was nervous and excitable to the last degree, and with tendencies decidedly suicidal. It was evident that, if in no other way, electricity might prove of service as an adjunct to allay irritability, and as a general tonic. I treated her every other day for three months, alternating central galvanization with general faradization, and then gave her an interval of rest for three months. No attack occurred until after the lapse of six months from the initiation of the combined methods of electrical treatment.

After a second three months of treatment another interval of rest was allowed, and was then followed by a third three months' course of treatment.

Eighteen months passed with but a single attack, and twelve months without any, at which point the published history of the case ceased, closing with the remark that we were "hopeful of the ultimate results." Two months subsequently, however, fourteen months after the last attack, a second one occurred, and the central and general electrical treatment were immediately resumed, but, notwithstanding, a third attack occurred within six months.

With intervals of rest, the treatment was still continued, and it was not until November, 1880—a period of twenty-two months—that a fourth attack occurred. In July, 1881—seven months after—she suffered a fifth attack, and in June, 1883, after twenty-three months of freedom, came a sixth attack.

The treatment, both electrical and medicinal, was persevered with on the same general plan for two years more. Up to this date—nearly four years from the last seizure—the patient has been entirely free from even a suggestion of epilepsy. One exceedingly interesting feature of this case relates to the change in the mental and moral make-up of this patient. From being hysterical, passionately unreasonable, and personally unattractive, the graces characteristic of the best feminine type have either been restored or come as a new growth.

It is a notable fact that epileptics are often the most uncertain of patients on account of the discouragement arising from the persistency of the symptoms; but here was a patient following with a faithfulness almost unparalleled, through almost half a score of years, the same routine of treatment at the same hands.

Who can say that success would have followed any efforts, however skillful, had they been changeful and without continuity?

Noteworthy, also, is the fact that the bromides could have been taken for so many years—nearly twelve—with no apparent ultimate evil.

A second case in support of the proposition that electricity may not only prove a valuable aid in the treatment of epilepsy, but that in certain cases it may be apparently indispensable, is as follows:

A. P., an unmarried woman, aged twenty-nine, came to me in February, 1879, through the kindness of Dr. C. H. Atwater. She was a poor physical wreck, and in a condition of mind bordering at times almost upon insanity. Since the age of twenty-one she had suffered from epileptic seizures varying in frequency from two to fifteen a month, and always occurring at night. A year after the first attack she had begun the use of the bromides, and for a time there had been a marked diminution in the number of attacks. This amelioration had been but temporary, and after two years of treatment she had abandoned rational medicine and submitted to various forms of charlatanry, the faith cure and prayer test among the rest.

No notable result had followed, and when I saw her she had again resorted to the bromides.

Formerly twenty grains of bromide of potassium and bromide of sodium, equal parts, had modified the attacks, but she now found it necessary to take thirty grains. This she had been doing for three years, seldom having more than two attacks a month. Any marked negligence in taking the medicine invariably caused a decided increase in the number of the seizures. She was in such a wretched condition, body and mind, that I interdicted temporarily the bromides, and for one month administered daily applications of general faradization. It is hardly possible for me to indicate the immense relief that followed this now well known, but not fully appreciated, method of treatment. Although there was no decrease in the frequency of the attacks, on the other hand there was no increase, as had invariably been the case whenever the bromides had been omitted, while in the direction of quieter and more prolonged sleep, better appetite, improved nutrition, and increased mental and physical tone, the change was radical. I now ordered the following prescription, which was taken without change throughout the course of the treatment:

℞	Potass. bromid	℥ iij;
	Chloral hydrat	ʒ iij;
	Aquæ	f℥ xiv.

M. S.: A teaspoonful on rising, and two at bedtime.

This combination of bromide of potassium and chloral has commended itself to my judgment as superior to most others, in connection with electricity at least, in the treatment of epilepsy.

Associated with a grain or so of chloral, a given dose of the bromides is more effective in controlling epilepsy than when the latter is given alone. The record from this time onward is as follows:

The last attack before combining the two methods of treatment was on March 5, 1879. The following month, April 15th, an attack of considerable severity occurred. From April 15th to September 16th the record is clear, but on that day, and again on September 25th, the disease manifested itself.

These were the last attacks, but until February, 1881, treatment was continued. In regard to the electricity, practically the same plan was adopted as in the foregoing case. A few months, and sometimes a few weeks only, of treatment were followed by intervals of rest.

Mrs. G., a widow, aged thirty-seven, gave this history: At the age of thirty she had suffered a miscarriage, from the effects of which she had recovered but slowly. Two years after, an abortion had been produced, attended by copious hæmorrhage, and from the exhaustion that followed she had rallied with difficulty. Domestic dissensions and other causes had told greatly upon her nervous system, and finally, in the early part of 1885, led to a series of epileptic attacks that had always occurred at night. I saw her the following April, and was the first to whom she had applied for relief. Two to three times a week measured the average frequency of the attacks.

I gave the following prescription, which she faithfully took for three months:

℞	Potass. bicarb	ʒ ij;
	Ammon. bromid	ʒ vij;
	Potass. iodid	ʒ iij;
	Potass. bromid	℥ iij;
	Infus. calumb	Oj.

M. S.: Teaspoonful at each meal, two teaspoonfuls at bedtime.

Its effects were decidedly beneficial, as during that time the paroxysms were but five in number. The bromide and chloral combination was then substituted, and during the succeeding four months but four attacks occurred. So far the use of electricity had not been attempted; but I now submitted the patient alternately to applications of central galvanization and general faradization, and from that time to the present she has suffered no attack.

But little more than a year has elapsed, it is true, since the last seizure, and it may be too soon to be entirely positive as to her future exemption, but the probabilities certainly are greatly in her favor. Some may say that this case might have progressed fully as well without the electricity. I think it highly improbable, however, and can not but regard it as particularly suggestive and valuable as bearing upon the central idea of this paper.

I refer to still another case as illustrating more especially the value of electricity in sometimes relieving persistent neurotic symptoms, whether they exist independently or are associated with epilepsy:

The patient was a lad of sixteen, who had been under the intelligent observation and treatment of Dr. Perry, of Ridgefield, Conn.

The bromides had been freely used, but with results less satisfactory than usually attend its administration. The story of his illness is a long one, and need be but briefly alluded to here. It dates back to his tenth year, when he began to complain of pain in the head, of dizziness, and nausea. His face would frequently become strikingly pale and his extremities cold. Finally he took to his bed, complaining of noises like the ringing of church-bells, that distressed him beyond measure.

All sounds disturbed him, and it was necessary to keep the house entirely quiet. For a time sleep could be induced only by gently rubbing the spine, and it was not unusual for him to awaken with a cry, followed by vomiting. At times he was better, and then again worse, until two years before I saw him epilepsy supervened, occurring as often as three times a month. Under the bromide treatment the attacks were held in check somewhat, but when I saw him he was having them sometimes once and sometimes twice a month. The boy was well developed and physically strong, weighing, I should say, about one hundred and thirty pounds.

While an almost endless variety of symptoms had marked the progress of this case, some disappearing permanently, either spontaneously or in response to methods of treatment, and others reappearing with measured persistency, one symptom continued without change. He was unable to entertain the thought of entering a public assemblage of any kind, and was seized with terrible fear if in riding or walking he found himself beyond a certain distance from home. In riding, so long as he kept within a radius of a mile or thereabouts from his house, it was well, but any attempt to enlarge the limits resulted in uncontrollable fright. For this reason it was impracticable to take him away for medical advice, and such treatment as I gave was administered at his home at intervals of two weeks or so. It seemed almost too much to hope for beneficial results from such infrequent applications, but this is what followed a few *séances* of central galvanization.

The interval between the epileptic attacks lengthened to eight and ten weeks; he gathered courage to drive alone to a neighboring town, ten miles away, and was soon able to make occasional visits to the city for treatment. His timidity in regard to public assemblages left him, and he freely took part in some that he attended. With the exception of these occasional epileptic seizures, every neurotic symptom disappeared, and he is now able to do a man's work. Since January, 1886, the patient has abandoned all treatment, but the attacks have not occurred with greater frequency, and he remains free from his old neurasthenic symptoms.

In the consideration of this most interesting and important disease, I am actuated by an earnest desire to arrive at correct conclusions, and it is therefore essential that I refer to the more unsatisfactory side of the picture. The total number of epileptic cases that I have treated since 1874, with special reference to the value of electricity, is twenty-eight. All of these were in private patients, and, of the number, ten abandoned treatment too quickly to be worthy of consideration in a statistical estimate of the value of any remedy.

In three cases which persisted sufficiently to enable me to give the electricity a fair trial, I was compelled to admit that it seemed in no way to aid the bromides in controlling the disease.

It is to be noted that of these three cases, in two the attacks invariably occurred during the day while the patient was awake, and in one they were observed both day and night. Eight other cases of which I have records were under observation variously from six weeks to nine months. In all of them, as it seemed to me, the good effects of treatment were manifest in greater or less degree, and in two of them, one of which was under observation seven and the other nine months, the manifest improvement was unmistakably due, in part at least, to electricity.

Of the remaining seven cases, four I have here related; the others have been given elsewhere.*

Of these other cases, recovery took place in two and decided improvement in the other.

In regard to these observations, it will be seen that they extend through a series of thirteen years. I have been in no haste to publish these experiences, and can only regret that they are not more extended and more worthy the consideration of the Academy.

The conclusions to which I have arrived are these:

1. Electricity possesses a certain value in the treatment of epilepsy. It is not known nor is it alleged that used alone it can cure epilepsy. Used in connection with the bromides, however, its value is unmistakable, and under its use a certain proportion of patients will recover that otherwise would fail to do so.
2. It is in the nocturnal variety of epilepsy more especially that the good effects of electricity are seen, although day attacks have been successfully controlled.
3. The methods of electrical treatment that have proved most efficacious in my hands are central galvanization and general faradization.
4. When electricity fails to cure, or aid in the cure, it is often efficacious, by the method of general faradization, in affording grateful relief from nervous symptoms of an indefinable subjective character; in other words, from that general instability of the nervous system recognized under the term neurasthenia.
5. The systematic use of electricity renders the system more tolerant of the bromides, and will diminish bromic acne.
6. It is important that electrical treatment should be administered with care and judgment, especially should all interruptions of the current be avoided in central galvanization, as the resultant shock is liable to hasten rather than prevent an attack.
7. Two years must elapse without an attack before any case of epilepsy can be considered as one of positive cure.

ALARMING HÆMORRHAGE AFTER TONSILAR EXCISION ARRESTED BY TORSION OF THE ARTERY.†

By CLINTON WAGNER, M. D.

Serious hæmorrhage after tonsilar excision, when we consider the frequency with which the operation is performed, is of very rare occurrence. In a paper entitled

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* "Medical Record," April 6, 1878.

† Read before the American Laryngological Association at its eighth annual congress.

"Habitual Mouth-Breathing," which I read before the Medical Society of the County of New York five years ago, I stated that an experience embracing over five hundred operations without an accident strongly inclined me to the opinion that tonsilar excision was almost devoid of danger.

Since then I have performed the operation very many times, and, with the exception of the following case, I have encountered no accident.

At the Metropolitan Throat Hospital the operation has been performed seven hundred and forty times without accident; and numerous other institutions which have clinics for diseases of the throat can, I have no doubt, show similar immunity from hæmorrhage.

Madame B. F., aged about thirty, an opera-singer by profession, consulted me for sore throat. I found the left tonsil greatly enlarged, and she informed me that it frequently became acutely inflamed. I recommended excision. The gland was partly covered anteriorly by the column of the soft palate, and extended so far downward into the pharynx that I had great difficulty in encircling its inferior portion within the ring of the guillotine; finally I succeeded in removing almost the entire gland. A gush of blood followed, but apparently not greater in quantity than is usual after this operation. The bleeding increasing instead of lessening, I applied to the cut surface of the gland the persulphate of iron, which failing, I resorted to compression, but I discovered afterward that it had not been exerted in the proper direction. Nearly an hour had elapsed since the operation, a large amount of blood had been lost, vomiting of the blood, which had found its way into the stomach, ensued, and the patient was rapidly losing strength. I cleansed the parts thoroughly of clots of blood, but, not finding the source of bleeding, I forced the tongue, by means of the depressor, upon the floor of the mouth as far as possible. In the space between the pillars of the soft palate, apparently springing from the root of the tongue, I discovered an artery of considerable size, bleeding freely and with such force that the blood was projected over and beyond the depressed tongue to the opposite side of the mouth. The bleeding vessel, now located, was, without much difficulty, taken up with an artery-forceps and twisted, and all further hæmorrhage was effectually controlled. I think the divided artery was either the tonsilar branch of the facial, or the largest of the pharyngeal branches of the ascending pharyngeal, both of which are given off from the external carotid.

Had my patient been a struggling, unruly child, I can readily conceive that the result might have been fatal. Under such circumstances, I think the hæmorrhage could only be arrested by having the child forcibly held, a gag introduced to keep the mouth open, and sufficient chloroform rapidly administered to stupefy and overcome resistance on the part of the child; the tongue well depressed, the artery could then be seized and held for a few minutes with the artery-forceps; this failing to arrest the hæmorrhage, a ligature to the common carotid would be necessary to save life.

In regard to instruments, for the past eleven years I have used Mackenzie's modification of Physick's guillotine. Formerly I preferred the Fahnestock instrument. Two accidents occurred which caused me to regard it as unsafe. On one occasion the fork, which is intended to pierce the tonsil and draw it from its bed, managed to get under the knife. With great difficulty I withdrew the instrument and made a second attempt, which succeeded.

During another operation the fork again found its way under the blade and broke off.

In the "Medical Record," April 24, 1886, the correspondent at Amsterdam mentions a similar accident as having occurred in the practice of Dr. Gaye with the Fahnestock instrument.

A RAPID AND EASY METHOD OF EXCISION OF THE HIP JOINT.

By MILTON JOSIAH ROBERTS, M.D.,
PROFESSOR OF ORTHOPÆDIC SURGERY AND MECHANICAL THERAPEUTICS; VISITING ORTHOPÆDIC SURGEON TO THE CITY HOSPITALS ON RANDALL'S ISLAND; CONSULTING ORTHOPÆDIC SURGEON TO THE WOMAN'S HOSPITAL, BROOKLYN.

The method of excision of the hip joint which I have practiced for a number of years merits attention on account of the ease and rapidity with which the operation may be performed. This method has an additional advantage also over that which is customarily adopted in that it avoids the possibility of leaving healthy bone in the wound which has been uncovered of its periosteum. The various steps of the operation may be briefly described as follows:

Incision through the Soft Parts.—The direction of the incision which I prefer is that indicated in Fig. 5 by the continuous dark line. It is begun a little in front of the mid-point of an imaginary line drawn between the anterior superior spine of the ilium and the middle of the summit of the great trochanter. Entering the knife at this point, it reaches the head of the bone at the upper and anterior edge of the acetabulum. From this point a curvilinear incision backward and downward is made, and the knife is passed over the summit of the great trochanter at the junction of the middle with the posterior third of its antero-posterior diameter. Having reached the summit of the great trochanter, the incision is extended in a straight line down the shaft of the femur to a point on a level with the lower border of the lesser trochanter. All the tissues, including the capsular ligament, are divided down to the bone along the line of this incision. Care, however, is taken not to cut through or wound the periosteum in any manner.

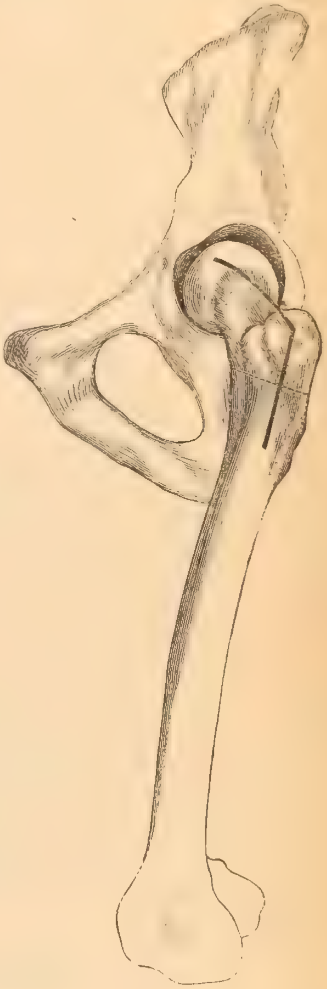

Fig. 1.

The Placing of Protecting Retractors between the Soft

Parts and the Bone.—Having made a clean cut down to the bone, the soft parts on either side of the wound between the great and lesser trochanters, or at any level where it is desired to make section of the femur, are severed a little on either side from their connection with the periosteum by means of a sharp scalpel. At no other point along the line of incision are the soft parts severed from their connection with the periosteum. The reason of such severance at the point where it is desired to make section of the femur is in order to facilitate the introduction of protecting retractors between the bone and the soft parts. The retractors employed for this purpose are made to be used in pairs or singly. The blades of those designed to be used in pairs are illustrated in Fig. 2. They are introduced one at a time much after the fashion of the blades of an obstetric forceps, being placed close to the bone between it and the soft parts. When in position, the bone lies directly upon them, as shown by the dotted line in the figure, and the soft parts behind them. As these retractors are made of steel, the soft parts are absolutely protected from all danger of being cut when using the circular or sectional saw of the electro-osteotome.

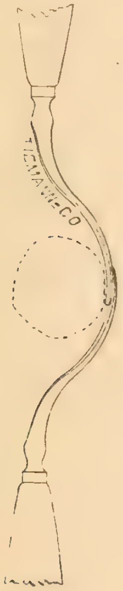

FIG. 2.

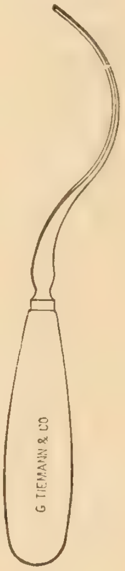

FIG. 3.

That form of retractor designed to be used singly is illustrated in Fig. 3. The blade has a much longer curve than the others, and, though somewhat more difficult of introduction on this account, it is, for other reasons, sometimes the preferable form of retractor to use. The curves of these retractors are made to correspond to the various sizes of circular saws.

Section of Bone.—Having placed the retractors in position, an assistant depresses both handles so as to bring the bone into full view. The electro-osteotome (Fig. 4),* provided with a circular saw of appropriate size, is now grasped by the hand of the surgeon, the circuit closed, and the rapidly-revolving saw-blade brought down upon the bone at right angles to its shaft. A perfectly clean and smooth section through the periosteum and bone is made in from two to three seconds, according to the size of the bone. By this means it will be seen that the sections through the periosteum and bone coincide absolutely throughout. If the bone were divided inside the periosteum, as some surgeons recommend, a part of the healthy bone on the distal side of the cut would necessarily be denuded of its periosteum.

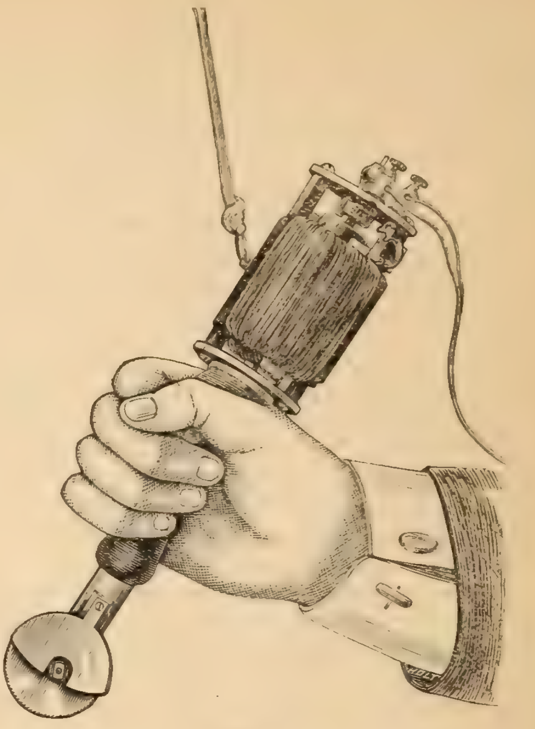

FIG. 4.

Subperiosteal Removal of Upper End of Femur.—The next step in the operation is the subperiosteal removal of the upper end of the femur. To this end, the periosteum is divided upon the bone in the line of the initial incision through the soft parts. The end of the femur which has been cut off being firmly held within the grasp of a bone forceps, the periosteum is reflected from the bone at either side by means of a periosteal elevator. As rapidly as the periosteum is reflected, the fragment of bone is raised out of its periosteal bed by means of the bone forceps. When the digital fossa is reached, the attachment of the rotator muscle is divided with the blade of a scalpel and the operation proceeded with. The rapidity and ease with which the detached end of the femur may in this way be removed is truly surprising. It should be noted also that by this method of removal the attachments of the periosteum are only disturbed at one point—viz., where the transverse section of the bone is made.

Subsequent Steps in the Operation.—The subsequent steps in the operation do not differ materially from those practiced by other operators, except, perhaps, in regard to the introduction of sutures. Having cleaned out the acetabulum, should this be diseased, I am in the habit of introducing a large-sized rubber drainage-tube and closing the periosteum and soft parts over it with silver sutures. These sutures should be passed from the surface down through the entire thickness of tissue and through the periosteum near the line of incision. Drawing the needle out at this point, it is passed up through the edge of the periosteum on the other side of the wound through the tissue to the surface, as indicated by the dotted line and arrows in the diagram (Fig. 5).

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* "The Electro-osteotome; a New Instrument for the Performance of the Operation of Osteotomy, and a New Form of Retractor." Communicated to the Northwestern Medical and Surgical Society of New York, October 17, 1883. "Medical Record," October 27, 1883; "Illustrirte Monatsschrift der ärztlichen Polytechnik," January, 1884; "Archivio di Ortopedia," vol. i, p. 364, 1884.

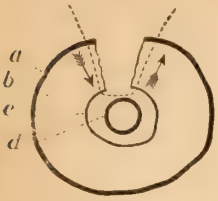

Fig. 5.

Introducing the necessary number of interrupted sutures in this manner, the edges of the wound are drawn together and secured in position. If the operation has been thoroughly performed under strict antiseptic precautions and no diseased tissue remains behind, primary union not infrequently takes place throughout the entire extent of the incision except where the drainage-tube projects.

105 Madison Avenue.

Correspondence.

LETTER FROM VIENNA.

Dr. Neusser on Pellagra in Austria and Roumania.—Professor von Basch on Cardiac Compensation.—The late Professor Arlt.

Vienna, *March 15, 1887.*

Dr. Neusser, Professor von Bamberger's assistant, was requested some time ago by the Minister of Education to make a journey to Friuli, in Austria, and to Roumania, to study the nature of pellagra, to investigate the measures for preventing it, and to give an account of the same. He undertook the journey, and at a recent meeting of the Imperial-Royal Society of Physicians he gave some account of his observations. He gave a succinct picture of the well-known clinical history of the disease, and attributed great diagnostic importance to the chess-board-like appearance of the tongue caused by deep *gerçures*, or grooves, among the papillæ. His researches had not led him to coincide with Cuboni's view of the ætiology of the disease, according to which the *Bacterium maidis*, an organism found in the fæces of the victims of pellagra, is the cause; pellagra, he said, was not an intestinal mycosis, but was due to a chemical poison. He agreed to the general impression of the origin of the disease being connected with some peculiar quality of the maize that enters largely into the food of the people who are for the most part affected with pellagra. He thought it was the result of two factors, one of which was to be sought for in the unsound maize, or *polenta*, and the other in the condition of the individual. It was not his opinion that the maize itself was poisonous, but that it contained substances capable of conversion, in the stomachs of those predisposed to the disease, into the poison that gave rise to the latter. In this respect, he likened the maize to amygdalin, which of itself is not injurious, but under certain conditions is transformed into hydrocyanic acid. He spoke at length of prophylactic measures, by which unsound maize could be rendered wholesome, such as restricting the importation of maize to that which had been well ripened and the establishment of drying-kilns and storehouses after the manner of the Mexicans. Taking into consideration the fact that pellagra is rare in Mexico, where, indeed, unsound maize is mixed with that which is sound, but where the whole, before being used, is boiled with chalk or ashes, he recommends this method of preparation.

At the last meeting of the same society, Professor von Basch read a preliminary communication on "The Mechanical Process of Compensation in Cases of Mitral Insufficiency." He opposed the theory that has prevailed, after the teachings of Traube, Rosenbach, and others, that augmented activity of the right ventricle compensates for the deficiency in that of the left ventricle, and showed a model illustrating clinical observation and experiment to the effect that the compensating action takes places in the left ventricle. It was brought about, he said, by the heart-beats becoming more frequent, so that the blood was driven into the aorta with greater celerity. If the compensation was sufficient, there must also be present a slight degree of stenosis, and this, too, was shown in the model. The latter statement was supported by Professor Rosenstein's view that those cases of mitral insufficiency were the most hopeful in which there was also a slight degree of stenosis. Enlargement of the right ventricle was only a secondary condition, and but a very inferior compensatory importance could be attributed to the right side of the heart.

Ophthalmological science, mankind in general, and the Austrian metropolis in particular, have just sustained a heavy loss by the death of Ferdinand Arlt. You are aware of the events of the last days of his life, of the bodily sufferings which he had to endure, and which he supported with true philosophical tranquillity and devotedness, as Professor von Bamberger remarked some time ago. Professor Arlt was born on the 18th of April, 1812, at Obergraupen, in Bohemia. He attended the gymnasium at Leitmeritz and the university at Prague, where he took his medical degree in 1839. In 1840 he became the assistant of the famous oculist of Prague, Professor Fischer, in which capacity he served for two years. He was afterward made *professor supplens*, and he was ordinary professor at Prague from 1849 to 1856. In 1856 he was called to Vienna as ordinary professor, and there served as a teacher and as the director of the first ophthalmological clinic until the end of July, 1883, when he was put on the retired list, having reached the age of seventy years. His earlier works appeared for the most part in the "Prager Vierteljahrsschrift für praktische Heilkunde," including papers on xerosis, pterygium, staphyloma, chorioiditis metastatica, pathological conditions of the eyelids, cataracta pyramidalis as the result of blennorrhœa of the new-born, etc. In 1851 he published his book, "Die Krankheiten des Auges," for general practitioners, in three volumes. Subsequent editions were published in 1860 and 1863. In this work he developed his clinico-anatomical system of eye diseases, to which he clung during his whole life. It was this work that established Arlt's reputation in the world. In 1874 he published his "Operationslehre," in von Graefe and Sämisch's "Handbuch für Augenheilkunde." His subsequent notable contributions were on the care of the eyes in health and disease (1875), the causes and origin of myopia (1878), diseases of the chorioid, the cornea, the iris, and the ciliary body (1881), and the theory of glaucoma (1884). In 1855, together with Donders and von Graefe, he edited the "Archiv für Ophthalmologie." His ability and skill as an operator are too well known to call for mention. Among the honors conferred on him was that of the Iron Crown. He was the president of the Vienna Imperial-Royal Society of Physicians for several years, and a member of a number of other medical societies. His humanity and kindliness were almost unparalleled. His death, on the 7th of this month, was deplored by all the Viennese, who loved him as a scholar and as a benefactor.

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NEW YORK, SATURDAY, APRIL 16, 1887.

MALARIAL HÆMATURIA IN ROUMANIAN CATTLE.

IN the February number of the "Revue de médecine," Dr. Grigorescu treats of a disease of Roumanian cattle which shows many points of resemblance to the malarial hæmaturia of man. It is confined to swampy regions, where it prevails in dry seasons, while it subsides after heavy rain-falls, when the stagnant waters are diluted. The malady is essentially adynamic, and is manifested by inertia, dullness, pendent head, inappetence or anorexia, excessively high temperature, the appearance of petechiæ on the visible mucous membranes and the more exposed and delicate parts of the skin, and red or black urine of a density of 1·009, giving two shades of light-green by refraction and yellow by reflection. The red granular matter is quickly precipitated, leaving the supernatant liquid clear. The sediment dissolved in cold acetic acid, and was composed of hæmoglobin, hippuric acid, uric acid, and oxalate of calcium. The blood, drawn in the last stages of the disease, presented a great excess of white globules, while the red globules were but 2,000,000 in number to the cubic millimetre, as compared with 2,800,750 in a healthy emaciated animal. No micro-organisms were found with a power of 450 diameters and without staining methods being used. The blood was serous and incoagulable, and flowed freely from the carcases when they were cut into. Petechiæ were numerous in the subcutaneous and intermuscular tissues and on the mucous membranes, especially those of the third and fourth stomachs, the duodenum, and the ileum, where softening also had ensued. The serous membranes were generally petechiated, and the endocardium was puffy and of a dark brownish-red. The kidneys were deeply blood-stained, especially between the pyramids and the medullary tissue, and the muscles were decidedly discolored. The latter was the case with the parenchyma of the liver also, and the bile was abnormally thick. The spleen was softened and gorged with blood, and measured 63 by 12·5 centimetres. The malady attains its greatest prevalence in late summer and autumn, keeping pace with the malarial fevers in man in the same localities, and it further resembles them in showing a daily (evening) exacerbation. Under an antiphlogistic treatment it is invariably fatal, but it responds favorably to full doses of quinine.

So far, the description is highly suggestive of a relation to intermittent or remittent fever, but the comparative infrequency of the disease in countries and districts where these prevail forbids the idea of their identity. In symptoms and morbid appearances it bears a very close resemblance to the Texas fever of cattle, but differs from it in attacking the cattle of the district in great numbers and with fatal effect, whereas the Texas fever is comparatively harmless to acclimatized cattle. The remittent phase is often seen in both Texas fever and generalized anthrax, so that this serves in no wise to identify it. These diseases also agree with ague and malarial hæmaturia in a special prevalence during summer and autumn. The affection might well be supposed to be closely related to the enzootic hæmaturia of cattle in marshy and unimproved districts, which usually disappears after the adoption of thorough drainage and cultivation. The degree of its relationship to the malarial hæmoglobinuria of man it would be presumptuous to attempt to state. Dr. Grigorescu gives no hint of the prevalence of any corresponding disease in man, and the parallel which he draws between this disease in cattle and the intermittent fevers in man suggests that he would have been likely to notice the malarial hæmaturia had it been known locally. It can hardly be doubted that this malarial hæmaturia of cattle is one of that extensive class of bacteridian diseases the germs of which are preserved in marshy or badly drained, uncultivated ground, and which are induced by the entrance of the germs or of their chemical products (ptomaines) into the system of a susceptible animal. Allied bacteridian affections of a fatal nature are not unknown in different countries of southern Europe and northern Africa, and it may be that a careful study of these may finally show that our Texas fever, like the lung-plague of cattle, had its origin in the Old World, and has merely been transplanted to American soil.

A SOURCE OF ERROR IN THE EXAMINATION OF DIABETIC URINE.

OWING to the convenience and rapidity with which it may be applied, the polarimetric test of diabetic urine has commonly been considered satisfactory and sufficient. But occasionally a decided discrepancy has been noticed between the indications furnished by the polarimeter and those observed on the application of the ordinary chemical tests, and it has even happened that the polarimetric examination of diabetic urine has not only failed to show any rotation of polarized light to the right, but has shown its rotation to the left, thus leading to the supposition that the urine contained albumins or peptones. The matter has lately attracted the attention of a number of German biologists and that of Dr. Louis Hugounenq, a *professeur-agrégé* of the Lyons Faculty, who gives an interesting summary, in the "Lyon médical" for March 20th, of what has thus far been ascertained in explanation of the disagreement between the two sets of data.

It seems that the urine occasionally contains β-oxybutyric acid, a compound differing from the lactic acid of the muscles only in the addition of an atom of carbon and two atoms of hydrogen. It is described as a thick, colorless, uncrystallizable syrup, highly acid and giving all the reactions of lactic acid. It has the property of twisting the polarized ray to the left to the extent of 23·4°, and it is this property which enables it, according to the proportion it may chance to bear to the glucose in a given specimen of urine, to mask the presence of the latter wholly or in part. Whenever it exists in the urine, therefore, it renders the polarimetric test delusive, and the examiner must then depend on the ordinary tests. β-oxybutyric acid is not easy of detection by the common methods of procedure, but its presence and its amount may be ascertained with the polarimeter after all the glucose in the urine has been got rid of by fermentation. A supplementary method is, to evaporate the fermented urine to the consistence of a syrup over a water-bath, add an equal volume of concentrated sulphuric acid, and subject the mixture to fractional distillation over an oil-bath, care being taken to cool the products at once. The crystals which form are purified by re-crystallization in ether, and dried. It then only remains to determine their fusing point; if this is between 70° and 71° C. (= 158° and 159·8° F.), they consist of crotonic acid, proceeding from the β-oxybutyric acid, the presence of which, as indicated by the polarimetric examination, is thus confirmed.

MINOR PARAGRAPHS.

MEDICAL SOCIETIES AND THE LAW IN PENNSYLVANIA.

Dr. John C. Cotton, of Meadville, Pa., has prepared a pamphlet setting forth the difficulties which he has met with in the trial of certain ethical charges and counter-charges of which cognizance was taken by the Medical Society of Crawford County, and at a certain phase of the controversy by the State Society. Dr. Cotton states his case very graphically, and his version of the facts, to which the final decision by an officer of the law virtually gives the stamp of corroboration, pointedly illustrates the disregard with which medical societies are apt to treat the requirements of law in their attempts to adjudicate between contending members. We have not space for the story, but a single incident of it is notable enough to be mentioned. It seems that at one time a meeting was held at which the entire number of voters present was six, of whom four were members against whom Dr. Cotton had preferred charges. Although he himself was necessarily absent, the matter at issue was passed upon, the four gentlemen, of course, having things all their own way. Finally, despairing of justice in any other way, Dr. Cotton appealed to the law, and his contention has been fully sustained.

THE LONG ISLAND COLLEGE HOSPITAL.

The Twenty-ninth Annual Announcement of the college is deserving of notice as being a far handsomer pamphlet than we are accustomed to see in similar publications. But, what is of far greater importance, it is likewise remarkable for the number and character of the advances it sets forth as having been made or in course of establishment at the college. The most important of them is the arrangement of facilities for special study in the Hoagland Laboratory, of which so competent a man as Dr. Sternberg, of the army, is to have charge. It is expected that the building will be in readiness for the opening of the next regular term, although some delay has been met with on account of the necessity of selecting a site different from the one at first intended, some defect in the title of the latter having been detected. The site finally decided upon is directly opposite the college building, and, to judge by an engraving contained in the Announcement, the laboratory will be no mean addition to the architectural attractions of Brooklyn. It has a look of mediævalism befitting a place of study and research.

TENNYSON AND BRITISH MEDICINE.

In the second of the following three lines, from Lord Tennyson's "Jubilee Ode," the "Lancet" discerns "the Laureate's recognition of fifty years' marvelous progress in medicine":

"Fifty years of ever-broadening commerce!
Fifty years of ever-brightening science!
Fifty years of ever-widening empire!"

It strikes us that the recognition might have been a trifle more specific, but, remembering certain verses in which, a few years ago, Tennyson seemed to empty the phials of his wrath upon practitioners of medicine, we presume that there is reason for our contemporary's satisfaction, especially as another line reads:

"Give your gold to the hospitals."

THE POST-GRADUATE MEDICAL SCHOOL OF CHICAGO.

The Second Annual Announcement of this institution shows not only a fresh indication, added to the many that we have before noticed, of the progress and the promise of endurance of what we may call the post-graduation instruction movement in this country, but also that the faculty of this particular school have at their command clinical facilities in abundance and of an exceedingly high order of fitness for the purpose in view. There were twenty matriculates in attendance on the sessions of the year 1886, and it will be surprising if the list for the current year does not show a handsome increase. Among the members of the faculty we recognize the names of several gentlemen of high position in the American profession, and the fact that a number of them are also connected with the different degree-granting colleges in Chicago argues a harmony between the institutions that is of good omen.

ANOTHER ITALIAN FASTER.

We learn from the "Union médicale" that a compatriot of Succi's, Signor Cetti, is about to undertake a thirty days' fast in Berlin, under the supervision of a committee of physicians. It is stated that the project was at first opposed by the police authorities, but that they have yielded to Professor Virchow's assurance that the man would encounter no danger, and that the experiment would be of medical interest. Whether or not medicine is to be in any way the gainer by Signor Cetti's undertaking, it is gratifying to learn that he is not to be allowed to make a public exhibition of himself during its progress.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 12, 1887:

DISEASES.	Week ending Apr. 5.		Week ending Apr. 12.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	11	5	15	6
Scarlet fever	59	11	66	9
Cerebro-spinal meningitis	3	2	3	2
Measles	111	15	94	11
Diphtheria	77	31	99	9
Small-pox	10	0	7	5

Bellevue Hospital.—The corner-stone of the Townsend Pavilion, to be devoted to abdominal surgery, was laid on Monday. The structure is to be erected with funds generously furnished for the purpose by Mrs. Townsend, as a thank-offering, it is said, and is to be under the care of a committee of ladies of Calvary Church.

The New York Eye and Ear Infirmary.—The directors of this most deserving charity, together with members of the professional staff, have subscribed the sum of $32,000 toward a fund of $275,000 urgently needed for the erection of a new building. It is to be hoped that the remainder of the amount mentioned will speedily be secured.

A Diphtheria Hospital.—It is announced that steps have been taken which are expected to lead soon to the establishment in New York of a special hospital for diphtheria patients. Among the medical men who are mentioned as favoring the project are Dr. Fordyce Barker, Dr. A. Jacobi, Dr. J. H. Ripley, Dr. G. F. Shrady, Dr. J. B. White, Dr. W. B. Wallace, and Dr. C. J. Macguire.

The Paris Pasteur Institute.—The "Lancet" states that the members of the committee have decided to decline the site offered by the municipality, and to buy one for 430,000 francs; that they have agreed upon the plans of four buildings, to cost 60,000 francs; and that a yearly revenue of 65,000 francs has been secured, leaving 35,000 still to be obtained.

Columbia College.—At the recent centennial celebration, the undergraduates of the medical school (the College of Physicians and Surgeons) were adequately represented in the exercises. Among the persons on whom the honorary degree of LL. D. was conferred were Dr. John Call Dalton, the president of the College of Physicians and Surgeons, Professor John Tyndall, of London, and Professor Hermann Ludwig von Helmholtz, of Berlin.

The Health of Chicago.—It appears by the Health Department's "Condensed Statement of Mortality," for the month of March, that the whole number of deaths reported during the month was 1,518, including twenty-four from cholera infantum, one from cholera morbus, a hundred and thirteen from croup and diphtheria, eleven from diarrhœa, four from dysentery, twenty from entero-colitis, five from erysipelas, four from cerebro-spinal fever, one from remittent fever, twenty from scarlet fever, forty-one from typhoid fever, seven from typho-malarial fever, fifty-nine from measles, twelve from pyæmia and septicæmia, and eight from whooping-cough.

A Dutch Prize.—The "Union médicale" announces that the Provinciaal Genootschap van Kunsten en Wetenschapen proposes to award a diploma of honor and the sum of three hundred Dutch gilders for the best essay, founded on experimental investigations, on the action of the salts of sodium, potassium, and magnesium on the alimentary canal, as compared with that of calomel and senna leaves. Until December 1, 1888, essays may be sent to R. Melvil Baron van Lynden, Utrecht.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 27, 1887, to April 9, 1887:*

PERLEY, HARRY O., Captain and Assistant Surgeon. Ordered for temporary duty at Fort Maginnis, Montana Territory. S. O. 23, Department of Dakota, March 18, 1887.

HOFF, JOHN VAN R., Captain and Assistant Surgeon. Ordered for duty at Fort Reno, Indian Territory. S. O. 43, Department of the Missouri, April 4, 1887.

CORBUSIER, W. H., Captain and Assistant Surgeon. Granted leave of absence for one month. S. O. 35, Department of Arizona, March 29, 1887.

BURTON, H. G., Captain and Assistant Surgeon. Ordered to Plattsburg Barracks, New York, for temporary duty. S. O. 78, A. G. O., April 5, 1887.

LA GARDE, L. A., Captain and Assistant Surgeon. Ordered for duty at Fort Assiniboine, Montana Territory. S. O. 78, A. G. O., April 5, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending April 2, 1887:*

WAGGENER, J. R., Passed Assistant Surgeon. Commissioned a surgeon, March 18, 1887.

FITTS, H. B., Passed Assistant Surgeon. Ordered to the Receiving-ship Vermont.

TRACY, E. C., Assistant Surgeon. Detached from the Vermont, and ordered to the Atlanta.

HEFFINGER, A. C., Passed Assistant Surgeon. Detached from the Atlanta, and ordered on special duty in connection with the construction of Hospital at Widow's Island, Maine.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending April 9, 1887:*

URQUHART, F. M., Passed Assistant Surgeon. To assume charge of Cape Charles Quarantine. March 29, 1887.

NORMAN, SEATON, Assistant Surgeon. To report for duty at Cape Charles Quarantine. April 2, 1887.

BAILHACHE, P. H., Surgeon. Detailed as chairman, Board of Examiners, to meet in Washington, April 25, 1887. April 4, 1887.

PURVIANCE, GEORGE, Surgeon. Detailed as member, Board of Examiners, to meet in Washington, April 25, 1887. April 4, 1887.

GODFREY, JOHN, Surgeon. Detailed as recorder, Board of Examiners, to meet in Washington, April 25, 1887. April 4, 1887.

IRWIN, FAIRFAX, Passed Assistant Surgeon. To proceed to Baltimore, Md., on special duty. April 8, 1887.

PETTUS, W. J., Assistant Surgeon. To proceed to Norfolk, Va., for temporary duty. April 4, 1887.

Society Meetings for the Coming Week:

MONDAY, *April 18th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *April 19th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Roman Medical Society (private); Medical Societies of the Counties of Kings and Westchester, N. Y.; Ogdensburg, N. Y., Medical Association; Medical Society of Passaic County, N. J. (annual).

WEDNESDAY, *April 20th:* Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological); Windham, Conn., County Medical Society (annual—Plainfield); Middlesex, Mass., South District Medical Society (annual—Waltham).

THURSDAY, *April 21st:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private); Tolland, Conn., County Medical Society (annual).

FRIDAY, *April 22d:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, *April 23d:* New York Medical and Surgical Society (private); Worcester, Mass., North District Medical Society (annual—Fitchburg).

OBITUARY NOTES.

John Marshall Paul, M. D., of Belvidere, N. J., died on Thursday, March 17th, of pneumonia. The deceased was a graduate of the Medical Department of the University of Pennsylvania, of the class of 1868. At the time of his death he was in the forty-fifth year of his age.

Proceedings of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of January 24, 1887.

The President, Dr. Laurence Johnson, in the Chair.

The Use of Aconitine in the Treatment of Nervous Diseases.—Dr. E. Waitzfelder described the physiological action of the amorphous and crystalline forms of aconitine. The drug, he said, seemed to have a double action on the nerve centers: First, that of irritation; second, that of subsequent paralysis. In the treatment of diseases of the nervous system, it was in neuralgias especially that it was of service, and, after citing evidence in this direction from different authorities, he said his own experience with the drug in this class of nervous affections had been equally satisfactory. He had succeeded in curing some patients and relieving others, who had suffered from facial neuralgia for a varying length of time. He had found a combination of aconitine and veratrine, used externally, to act better than aconitine alone. Caution should be observed in applying it near the eye, and over cuts and bruises, as a poisonous amount might enter the system. He had employed aconitine in three cases of chronic sciatica; in two with decided benefit; in the third with no apparent benefit after a month. In the treatment of pachymeningitis, whether syphilitic or not, he had occasionally observed benefit. A marked example was related, in which a woman was relieved of pain within three days, after antisyphilitic treatment alone, long continued, had been ineffectual. There was a history of syphilis. The use of aconitine was almost always followed by some relief in such cases, but not always so soon. He had used it for agonizing headache from tumor in two cases, but without giving relief. In two cases of exophthalmic goître no effect upon the tumor or the eyes was observable, but the patients said they felt better after the use of the drug. It was of benefit in active congestion of the brain with increased blood-pressure from excessive action of the heart. Here it was combined with bromide of potassium. In insomnia from business troubles it was of benefit in connection with small doses of bromide of potassium. In selected cases, carefully watched, it was useful for hyperæsthesia from spinal irritation, and in cases in which there were doubts as to commencing myelitis.

Dr. David Webster had used aconitine with benefit in a few cases of nervous affections, such as pachymeningitis, seen with other physicians.

Dr. Leszinsky had had considerable experience with aconitine, and spoke of the dangers attending its use. It should not be employed in insomnia until other remedies had failed. It should also be remembered that in acute mania there was a tendency to exhaustion, which rendered it important that the action of the drug should be carefully watched. In cases of spinal irritation with hyperæsthesia there was likely to be depression and poor circulation, contra-indicating its use. He frequently used oleate of aconitine locally, as in facial neuralgia, but it should also be employed with caution. Aconitine was of value in pachymeningitis.

Dr. Messenger had used aconitine when it was first introduced, but he had largely discarded it, as it was dangerous. Unpleasant symptoms had followed its use in patients with depreciated general health.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN LARYNGOLOGY AND RHINOLOGY.

Meeting of January 25, 1887.

Dr. Beverley Robinson, Chairman.

A Contribution to the Study of Diseases of the Uvula.—Dr. Wendell C. Phillips mentioned in the first part of his paper the diseases of the uvula which had been described in literature, and said that primary disease of that organ was rarely seen. A case of angeioma primarily developing in the uvula having come under his observation recently, he read the history in detail. The patient, a man aged thirty-nine years, was first seen at the Throat Department of the Manhattan Eye and Ear Hospital, having had difficulty in swallowing for two months, and having lost flesh and strength. The uvula was enlarged in all its dimensions, especially in length, being two inches long, and terminating in a bulbous mass, which caused little trouble except when he was eating. There were what appeared to be venous dilatations over the entire surface of the growth. The patient was positive the condition had not existed more than two months. As he had had chancre two years before, the disease was supposed to be syphilitic, and antisyphilitic treatment was adopted. This was continued until December, 1885; but, as the tumor continued to grow, and the man's general condition became worse, it was abandoned for local applications, and finally, May 4, 1886, the tumor was removed by the actual cautery at red heat. Fears of dangerous hæmorrhage had been expressed, but the operation was almost bloodless. The patient was discharged six days later, and had been seen two or three times since in good health, with no evidence of return of the disease. Dr. T. Mitchell Prudden had examined the tumor, and pronounced it a cavernous angeioma.

A Case of Foreign Body in the Nose and Antrum.—Dr. S. O. Van Derpoel related the history of a case which had been referred to him in October, 1886, by Dr. Agnew. A man had been struck on the left cheek with a piece of firework prematurely exploding. The wound extended from the inner canthus of the left eye to the ala of the nose. Some paper, etc., were removed, and the wound was closed by suture. It healed slowly, and afterward large quantities of pus were discharged from the posterior nares, and the patient suffered from hemicrania, trouble with the eye, and impaired voice, and in his general health. The speaker was unable to pass a probe through the left nostril to the pharynx. A foreign body was recognized, surrounded by granulations, occupying the back part of the floor of the left nasal passage, not projecting into the pharyngeal space. It was proved to be metal. Traction with a forceps through the pharyngeal space failed to move it. The patient was then etherized, and the old wound from the inner canthus of the eye to the ala of the nose was opened, but it was still impracticable to remove the body. The soft palate was then divided in the median line, when, with a better grip of the forceps, aided by leverage, the foreign body was slowly dislodged and removed through the pharynx. The manipulations required about two hours. The foreign body was a zinc plate, over two inches long by an inch in width, bent upon itself, lying mainly in the antrum, the long diameter being transverse to the axis of the floor of the nostril. For some weeks after the operation large quantities of pus continued to be discharged from the antrum; but the wound finally healed, and the man's symptoms disappeared.

Demonstration of a Patient on whom Partial Removal of the Larynx had been Performed.—Dr. J. W. Gleitsmann demonstrated the case in the absence of Dr. A. G. Gerster, to whom he had sent the patient for operation. The man was fifty-seven years of age, and had consulted the speaker for increasing huskiness of the voice, painful deglutition, and cough. These symptoms had grown worse since the time he had observed a swelling below the left ear. On examination, the speaker found a tumor, of about the size of a hen's egg, below the angle of the jaw on the left side, and, on intra-laryngeal inspection, a growth of about the size and shape of an almond involving the vocal band on the left side. The patient entered the hospital, where, on the 18th of March, 1885, Dr. Gerster performed a preliminary operation, removing the infiltrated submaxillary glands, and in April removed the upper portion of the left half of the larynx (the diseased portion), leaving the right half intact. The patient was discharged May 31st, and had since remained in good health, now nearly two years. The tumor was a sarcoma.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of March 1, 1887.

The President, Dr. Charles L. Dana, in the Chair.

Alcoholic Paralysis; Multiple Neuritis.—Dr. H. M. Biggs presented the spinal cord and nerves from a case with the following history: Bertha B., aged thirty-five, married, was admitted to the hospital September 20, 1886. There was nothing of importance in the history up to the beginning of her present sickness, about five weeks before admission, when she had begun to have sharp shooting pains in both legs, but more severe in the right. She had begun to lose power in her limbs, and one week later had been unable to walk because her limbs were "too weak." The loss of power had seemed to begin in her feet. She had complained of pain in her back and weakness when she had tried to stand. Afterward she began to have pain and lose power in her arms. She said she had been a moderate drinker, and denied syphilis. On admission, the patient was almost completely paralyzed in her lower extremities; she could barely raise her limbs from the bed. The muscles of the upper extremities, especially the extensors, were also somewhat affected. There were some spots of hyperæsthesia and partial anæsthesia irregularly distributed over the lower extremities, and also considerable numbness. Sensation in the upper extremities seemed to be normal. The reflexes were lost. There was marked atrophy in both legs and thighs, particularly of the extensors of the foot, and a moderate amount in the arms. The extensors here were also most affected. She complained of very severe pain in the arms and legs, which kept her awake at night, and there was marked tenderness on pressure. Temperature at 9 A. M., 100° F.; at 5 P. M., 101·2°. Pulse, 9 A. M., 104; at 5 P. M., 112. Urine, 1·018; albumin, one eighth in bulk; no casts. Two days after admission the patient was found to have a moderate amount of fluid in the right pleural cavity. Twenty-four ounces of serum were withdrawn. She gradually failed, lost strength, and emaciated; the pleurisy developed into an empyema, for which a free opening was made in the chest. Before death, which occurred in February, 1887, she had lost all power over both lower extremities, and the arms were partially paralyzed. Atrophy was very marked in both lower extremities and forearms. Pain was constant, paroxysmal, and very severe. Tenderness on pressure and pain on movement of muscles were marked. Contraction of the muscles had gradually developed until the thighs were sharply flexed on the trunk, and the legs on the thighs. Attempts to straighten the limbs caused the severest pains. The bladder and rectum, the muscles of phonation, deglutition, and respiration, and the nerves of special sense, were entirely unaffected. The reactions of degeneration were present. The patient died of exhaustion resulting from the empyema.

Autopsy.—Patient greatly emaciated. Legs and thighs markedly flexed. Muscles of the leg of a yellow color, and apparently converted almost entirely into fat. Muscles of the thigh much less affected. Spinal cord, nerve roots, and trunks normal in appearance.

Microscopical Appearances.—Spinal cord apparently normal, with the exception of slight sclerosis in the columns of Goll in the cervical region. Nerve roots normal. In one of the sacral nerves before its exit from the spinal canal was found a marked increase in the endoneurium with diminution in the number of the nerve fibers, and an irregularity and indistinctness in these appearances. The right sciatic nerve showed the same changes more marked. In the posterior tibial the process was even more advanced, and in this only an occasional nerve fiber could be detected. Microscopically the gastrocnemius was composed almost entirely of adipose tissue; only here and there atrophied muscle fibers were found. The small nerve trunks in the muscle showed advanced degenerative neuritis, with comparatively little new growth of connective tissue in the nerves.

The President thought that in this case it had been fully demonstrated that the alcoholic paralysis was due to a neuritis and not to a myelitis.

Dr. M. A. Starr had seen the specimens, and said there was no question with regard to the existence of neuritis in this case, and the normal condition of the anterior cells of the spinal cord. There was slight sclerosis in the columns of Goll, which he was unable to explain. The same condition had been observed in a case of Hamilton's recorded by Grainger Stewart. He referred to a well-prepared specimen by Dr. Van Giesen in a case of Dr. Ball's, not yet published; also to the manner of preparing specimens.

Dr. Biggs said that, contrary to the ordinary condition found, the process seemed to be more a degeneration of nerve fiber than an interstitial neuritis, especially in the smaller nerves.

Dr. H. D. Noyes spoke of the frequent occurrence of amblyopia with alcoholism, and said it was due to a partial neuritis of the optic nerve, referred, as had been shown, to the center field, and not to the field at large. He suggested that in cases like the one reported by Dr. Biggs the neurologists should make careful examination of the optic nerves. In reply to Dr. Starr, whether scotoma was due as frequently to tobacco as to alcohol, he said it might be due to either, but the patients frequently combined the two habits.

The President said that the name alcoholic paralysis was rather begging the question; this patient, it seemed, had been only a moderate drinker. The same fact had been noticed in other cases.

Irritations arising from the Visual Apparatus considered as Elements in the Genesis of Neuroses.—Dr. G. T. Stevens read a paper on this subject. [See page 421.]

Dr. E. C. Seguin said, with regard to the ætiology of neuroses and serious mental disorders, that he thought we ought to look a great deal deeper than the exciting and superficial causes which occurred in many cases of that kind. In epilepsy and chorea, for instance, he thought we had to look for the efficient cause, not in a disturbed external apparatus, but to hereditary predispositions and faulty tendencies. That a faulty external apparatus would cause more attacks, or possibly aggravate the mental disorder, he thought no one would deny. Consequently, the optic apparatus, the genital apparatus, etc., should be put in perfect order. As to the great improvement after tenotomy in epilepsy, the records of surgery and medicine were filled with cases in which trauma of various kinds had interfered with epileptic manifestations for months, or even years. It seemed to him the report of a case within six months after tenotomy was rather premature. He referred to one of his cases of epilepsy that had been recently submitted to division of the ocular muscles, the bromides at the same time being withdrawn, and three days later the patient had commenced to have from six to twelve convulsions in the twenty-four hours, more than she had ever had before the operation. He had had patients go three years without an epileptic attack, and then have a relapse.

Dr. Noyes thought that the precise ocular conditions in the cases reported should have been recorded; perhaps they were in that part of the paper not read. He had with him exact records of a number of cases of ocular trouble, with the result of treatment. It had not fallen within his experience to meet with the class of cases referred to by Dr. Stevens. He dwelt upon the importance of making a thorough ocular examination, including that of the muscles of the eye, in every case. He had come to realize more and more the importance of insufficiency of the external recti. He had observed benefit in many cases from prisms. He spoke of the method of examination and of performing tenotomy. The paper deserved the most careful consideration.

Dr. D. B. St. John Roosa said that that part of the paper which especially concerned the ophthalmologist was as old as ophthalmology itself, and it did not call for discussion to-night. The real point in the paper was, he thought, that the correction of errors of refraction, improper relation between the ciliary and internal recti muscles, and other deviations of the ocular muscles was capable of curing constitutional disease. He took it that epilepsy was a constitutional disease and not merely a functional disturbance. The same was true of chorea. The question was, Did these operations cure epilepsy and chorea? But it had been shown that people with chorea got well without ever having an error of refraction corrected. It had also been shown that the vast majority of people who were not myopes were hypermetropes, yet suffered no inconvenience from it. In this, the author's second paper, another step had been taken —namely, that these constitutional diseases, epilepsy and chorea, were due not solely to errors of refraction, but to want of coördination between the recti and ciliary muscles. Then the prism test came upon the field, and we had to exercise the ocular muscles by prisms. Then in the order of advance came the doctrines taught in the paper of to night. Granting the statements of the paper, that the patients had for a time after correction of an ocular difficulty been greatly relieved, possibly cured, yet that was a long way from assuming that the ocular disturbance, whatever it was, was the cause of the epilepsy. Many great men having strabismus had not become choreic, epileptic, or insane.

Dr. A. L. Ranney made some remarks, which he subsequently wrote out in the form of a paper. [See p. 429.]

Dr. Herman Knapp said that his practice had not brought him much in contact with people who had neurotic conditions, and most of those whom he had seen had passed into other hands. He was very much surprised to learn that there was so high a percentage of ocular difficulties in the patients Dr. Stevens examined in the asylum. He thought nervous people generally did not show one complaint only. Many people, especially young ladies, who suffered from headache, etc., ceased to complain after correction of a deviation of the eye muscles, etc. He had listened with the greatest attention to Dr. Stevens, and he felt quite sure not only that his work was legitimate, but that it was highly promising. He was only afraid we should not be spared disappointments in that line of treatment.

Dr. Gruening said that his experience had been very much like that of Dr. Knapp. He always examined for muscular defect, and said that when one placed a prism before the eye it disturbed binocular vision. For the correction of this apparent muscular defect an operation was performed, but the muscle was sewed to its original place, or the lateral attachment was not divided; and this was only the simulation of an operation. He had benefited many patients by cylinders.

Dr. Stevens, in closing the discussion, said that there was no suggestion in the paper regarding cures. He did not believe in cures. Take away the cause of the trouble, and patients recovered. If the patients could not be said to be cured, it was still a very fortunate thing that they had got rid of their chorea, epilepsy, etc.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of December 23, 1886.

The President, Dr. Benjamin F. Westbrook, in the Chair;
Dr. A. H. Buckmaster, Secretary.

Carcinoma of the Rectum.—Dr. H. B. Bayles presented a specimen removed from the body of a carpenter, sixty-four years of age, who had come under his care in April, with frequent and painful micturition, shooting pains in the penis, and constant pain near the meatus urinarius. His general health was fair at that time, no calculus could be found, and the trouble was thought to be connected with the prostate. The urine contained pus, with but a slight amount of albumin. The patient was sent into the country, and returned much broken down in health and with his symptoms increased. He consulted Dr. E. L. Keyes, of New York, who, after as thorough an examination as was possible without anæsthesia, both the urethra and the rectum being very tender, wrote that he was suspicious of some malignant growth in the bladder, and advised a perineal or supra-pubic incision for purposes of diagnosis and drainage, should the latter be found necessary. As the family objected to an operation, the man was kept in the recumbent posture, and careful attention was paid to his diet. During the succeeding eight weeks he improved, although the frequent and painful micturition continued. There had been diarrhœa while the patient was in the country, but now there was very little trouble with the bowels, except that there was a desire to go to stool when the pain was acute. At no time was the pain referred to any other region than those of the penis and the prostate. About six weeks before the meeting, Dr. G. R. Fowler made a rectal examination, and was confident that there was some growth either in the bladder or behind it, or that there was an encysted calculus. He coincided with Dr. Keyes in recommending an incision. On the 19th of October Dr. Fowler made a supra-pubic incision, but exploration of the bladder revealed no tumor, stone, or ulceration, but the posterior wall of the organ, toward the summit, was so sensitive that pressure upon it caused the patient to move about considerably, although he was thoroughly anæsthetized. As the case stood, it looked as if there were trouble either in the kidneys or behind the bladder. A Jacques catheter, inserted into the penis before the operation, was drawn out through the abdominal incision, and left to serve for drainage and for washing out the bladder. After this, the paroxysms of pain were so severe that from twenty to twenty-five minims of Magendie's solution of morphine were required every four or six hours, and then not much sleep was secured. The bladder was washed out every two or three hours with a 1-to-2,000 solution of corrosive sublimate, and free drainage was maintained. After a time the pain occurred only when the bladder was being washed out. The wound closed gradually, and, two days after the removal of the catheter, there was a severe chill followed by the first constitutional symptom that there had been—a rise of the axillary temperature to 104·5° F. The temperature came down, after the administration of antipyrine and opium, in two hours, and there was no subsequent chill or any great rise of temperature. The lymphatics at the angle of the jaw became much swollen and indurated, and the man sank rapidly into a comatose state and died eighteen days after the operation.

At the autopsy, the kidneys were found in very good condition, no particular lesion being discoverable with the unaided eye. The intestines were entirely empty, both of gas and of fæcal matter, and bound down with adhesions. The upper part of the rectum, just below the sigmoid flexure, was the seat of the morbid growth. It was removed with some difficulty, as the adhesions were so firm that the soft mass easily broke down; the greater part was removed, although the surrounding tissues seemed thoroughly infiltrated with it. The specimen presented was the upper part of the rectum, with an adherent portion of the small intestine. The ligature at the lower end was at a distance of about five inches from the anus. The growth had evidently begun near the attachment of the meso-rectum, extended toward the sacral promontory, and perforated the bowel at that point, allowing pus and broken-down tissue to escape in that direction. Near this point there was considerable contraction of the bowel, so that only liquid stools could pass. There was slight adhesion to the bladder.

Drugs and Digestion.—The discussion of a paper with this title, read by Dr. R. G. Eccles at a previous meeting (see vol. xliv, page 600), was now taken up.

Dr. P. H. Kretzschmar said that he had made some investigations of the same subject several years before, and had arrived at some of the reader's conclusions. In regard to pepsin, however, he thought that the United States Pharmacopœial test could not be so worthless as had been stated. He also thought that the English test was a good one, if the hair sieve was used. In a paper of his own he had referred to the disadvantages of the tincture of the chloride of iron, and had urged the use of the acetate and the carbonate instead. He thought the reader's results would have been more exact if he had employed the temperature of the human stomach.

Dr. Arnold Stub fully coincided with Dr. Kretzschmar as to the value of the Pharmacopœia as a guide both for apothecaries and for physicians. He knew little of ingluvin, and less of what became of it after it entered the stomach, but he had prescribed it for the vomiting of pregnancy, and it had checked it after everything else had failed; consequently, he should continue to use it in such cases, and perhaps in those cases only. Tincture of chloride of iron might retard the digestion of albumin by pepsin in a test-tube, but to give it, on this account, between the meals instead of after them he considered a mistake; experience had taught him that the tincture caused severe pains in the stomach, if taken at other times than after meals, and his opinion was that its astringent properties contracted the peptic glands, prevented the discharge of pepsin into the stomach, caused pain, and perhaps delayed the digestion of the following meal. By communicating with others who had been engaged in researches like the reader's, he had learned that their experience with the digestive powers of different pepsins agreed well with the author's; but he had also learned that a lot of pepsin made by a given firm might give an entirely different result from that of another lot prepared by the same makers, which certainly proved that what was sold as pepsin was a product of rather uncertain properties. In fact, it was doubtful if any of the so-called pure pepsins were pure at all, and contemporary writers on physiological chemistry denied our ability to make pure pepsin. He had also learned from a maker of pepsin (Mr. Scheppe, of Sixty-fourth Street and Fourth Avenue, New York) that the stomach of one hog might yield an ounce of pepsin, while that of another would furnish only ten grains. That simply showed that the first hog required an ounce for his digestion, while the other needed only ten grains. The questions naturally arose, What was the dose for the human stomach? and How much in each individual case?—a matter, he could safely say, that it was very difficult if not impossible to determine, even supposing that the hog required the same species of pepsin that man needed. In a dose-table which he cited, the dose of saccharated pepsin was set down as ranging from thirty grains to an ounce—a wide range, indeed, simply showing how little we knew about the medicinal action of the so-called pepsin. Whenever he prescribed pepsin for a dyspeptic, he added hydrochloric acid, but he would candidly confess that he was not sure that it was not the acid alone that deserved the credit whenever the desired effect was produced.

The author had said: "It would appear . . . that the failure of appetite in a patient is not due to the checking of digestion by fever. The products of such digestion, however, no doubt seriously affect the same." With regard to this matter, the speaker had failed to recognize a special product of digestion in fever, but considered that the fever caused an increased action of the mucous glands, to the detriment of the peptic glands, which became closed and were not able to furnish the necessary pepsin, in consequence of which we observed failure of the appetite in fever. What share the nervous plexus of the stomach might have in the production of this state of things he would not undertake to say, but it was certain that pepsin, in combination with hydrochloric acid, produced benefit in fever by restoring the digestive powers for a time at least, and perhaps this might be the only time when it was rational to prescribe pepsin, because in dyspepsia it was not the want of pepsin in the stomach that gave rise to the indigestion, but the alkalinity of the fluids of the stomach, which rendered the existing pepsin unable to do its work.

If he had understood the author aright, he had asserted that pepsin, if brought into contact with albumin in the stomach, might, under certain specified conditions, not be able to digest the albumin sufficiently, but, instead of forming peptone, would change the albumin into parapeptone. The latter, the author had argued, would not be precipitated in the stomach, thence to be carried into the duodenum, where it would be brought into contact with trypsin and changed into peptone, but would be carried by osmosis into the walls of the stomach, and put a stop to digestion. The speaker would reply that, if such a thing was possible, the consequence would be that the parapeptone, once inside the walls of the stomach, would act as a foreign body, causing inflammation, suppuration, and perhaps perforation and death; in fact, every person who had indigestion would die of gastritis. He was of the opinion that, if parapeptone was formed in the stomach, it was carried with the chyme through the pylorus into the duodenum, where it was changed into peptone by the action of trypsin. The author had very correctly stated that Meissner had considered it impossible that parapeptone could be changed into peptone, but more recent observers, particularly Brücke, Schöffler, Hammersten, Finkler, Hoppe-Seyler, and Maly, had proved that, if pepsin came into contact with albumin, it must first form parapeptone with the latter before it could be changed into peptone; so that parapeptone might be considered an intermediate product of peptonic digestion. The insoluble peptones of which the author had spoken were only products of artificial digestion carried on at a temperature far exceeding that of the stomach in health or disease.

Dr. W. H. **Hutchinson** said that he had spent a week in a pepsin-manufacturer's laboratory, and taken great interest in the daily tests of the quality of the product obtained. This varied very much; at one time a grain of the pepsin would digest seventy grains of albumin, and at another time ninety-five grains. The results that he had obtained in experiments with pepsin from different makers differed from any that he knew of.

Dr. A. **Brinkmann** corroborated the statement that parapeptone was an intermediate product of peptonic digestion, and, citing Hoppe-Seyler (quoting from Brücke), said that the products of gastric digestion—peptone, parapeptone, acid albumin, and pepsin—after going through the pylorus, entered the duodenum and encountered the bile, which precipitated the parapeptone and the pepsin; and then the trypsin, acting on the parapeptone, converted it into peptone and rendered it assimilable. Iron and pepsin had each been a bone of contention among physicians. Perhaps, in giving tincture of chloride of iron, we made up for a deficiency of hydrochloric acid. Inasmuch as the doses of pepsin given by therapeutists varied from ten grains to half a drachm, it was doubtful if it had much virtue in aiding digestion.

Dr. **Eccles** reiterated his statement as to the utter worthlessness of the United States Pharmacopœial test. He, too, had observed good results from the use of ingluvin in the treatment of the vomiting of pregnancy, but the point he had wished to make was that they were not due to its action as a digestive ferment. He had seen benefit from pepsin when no hydrochloric acid had been used. Dr. Stub's point about the appetite being affected in fever by closure of the peptic glands was doubtless a good one, but, as to parapeptone being changed into true peptone in the duodenum, that could happen only after precipitation. He had never known tincture of chloride of iron to give pain when given between meals, provided it was properly diluted. The percentage of extraneous matter in different specimens of pepsin ought not to vary so much as had been observed, and it would not if a common process were used. The dissatisfaction that had been expressed about the action of pepsin was largely due, the speaker thought, to the great number of inferior preparations of saccharated pepsin in the market.

Book Notices.

Drug Eruptions; a Clinical Study of the Irritant Effects of Drugs upon the Skin. By P. A. **Morrow**, A. M., M. D., Surgeon to Charity Hospital, Dermatological Division, etc. New York: William Wood & Co., 1887. Pp. vi–199. [Price, $1.75.]

Dr. **Morrow** has rendered a great service to all practitioners of medicine by placing before them in this book a clear and full statement of all that is known of the action of the more important drugs upon the skin, and the ætiology, pathogenesis, diagnosis, and treatment of the various lesions which they cause. In reading this remarkable book the student is likely to be impressed with the amount of labor that has been expended upon it, with the great number of drugs that give rise to cutaneous symptoms, and with the masterly manner in which the author has handled his subject.

The matter is presented under various headings, as follows: History of the development of the clinical study of drug eruptions; a definition of what is meant by drug eruptions; classification; general characteristics; ætiology; pathogenesis; general diagnosis; general treatment and prophylaxis; the special study of the drugs that affect the skin—the subject-matter proper, including notices of some sixty drugs, which are arranged alphabetically; a bibliography, with over five hundred references; and a full index.

It would give us great pleasure to notice all these divisions in full, but space will not allow of it. We, therefore, shall note only those features which demand special commendation. Of these the section on pathogenesis is a well-thought-out explanation of the mode of action of the drugs upon the skin, resting upon a sound and scientific basis. Our author shows clearly that the effects produced by either the internal or external use of drugs which are followed by cutaneous phenomena are dependent upon their irritant action upon the nervous supply to the skin, and not, as has been previously taught by others, either upon the drug inducing impairment of the integrity of the eliminating organs, or upon an elective affinity of the drug for the constituent elements of the glands, or upon changes, of a chemical or other nature, in the blood brought about by the presence of the drug in it. We would note also that to the account of the action of many of the drugs there are appended descriptions of ready tests for determining the presence of the drug in the urine. This feature can not fail to be especially appreciated. The most important drugs—such as arsenic, bromine, iodine, and mercury—are treated of with proper fullness.

In conclusion we would say that this book will be found useful both to the general practitioner and to the dermatologist—to the former, because it explains and illustrates many obscure eruptions met with in his daily work, helps him to avoid mistaking a drug eruption for a contagious exanthem, and aids him in preventing and in treating the cutaneous accidents incident to the use of certain medicines; to the latter, because nowhere else will he find so complete a statement of what has been observed of drug eruptions, and because he will find the bibliography of immense assistance in his own investigations in this attractive field.

Refraction of the Eye; its Diagnosis and the Correction of its Errors. By A. **Stanford Morton**, M. B., F. R. C. S. (Ed.), Surgeon of the Royal South London Ophthalmic Hospital, etc. Third Edition. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. viii–67. [Price, $1.]

This little brochure was first published in 1881 for the express purpose, as the author states, of enabling practitioners to diagnosticate and correctly estimate the phenomena of a patient's refraction. The work consists of fourteen brief chapters, in which the entire subject of the anomalies of refraction is supposed to be discussed. We do not approve of these attempts to popularize such scientific branches of medicine, for experience has taught us that where the practitioner of medicine attempts to prescribe correcting glasses for cases of ametropia he almost invariably falls into error, and sometimes into an error of grave import. Only constant experience with a large number of cases, and a thorough knowledge of the intimate connection which exists between the eyes and the general system, together with a full appreciation of the personal equation of each patient, will enable us to avoid mistakes in prescribing correcting glasses. The author's style is clear, but we think he is too brief even for the recognized scope of the work.

BOOKS AND PAMPHLETS RECEIVED.

Cyclopædia of Obstetrics and Gynæcology. The Pathology of Pregnancy, being Volume II of a Practical Treatise on Obstetrics. By Dr. A. Charpentier, Adjunct Professor at the Faculty of Medicine, Paris.

Translated under the supervision of, and with notes and additions by, Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. In Four Volumes. Forty-five fine Wood Engravings and Two Colored Plates. New York: William Wood & Co., 1887. Pp. 3 to 381.

Elements of Physiological Psychology: a Treatise of the Activities and Nature of the Mind, from the Physical and Experimental Point of View. By George T. Ladd, Professor of Physiology in Yale University. New York: Charles Scribner's Sons, 1887. Pp. xii–696. [Price, $4.50.]

The Middlesex Hospital. Reports of the Medical, Surgical, and Pathological Registrars for the Year 1885. London: H. K. Lewis. Pp. 400. [Price, 2*s.* 6*d.*]

The Ophthalmoscope in General Medicine. By William Oliver Moore, M. D., Professor of the Diseases of the Eye and Ear in the New York Post-graduate Medical School and Hospital, etc. [Reprinted from the "Transactions of the Vermont State Medical Society."]

On Cataract Extraction without Iridectomy. By H. Knapp. [Reprinted from the "Archives of Ophthalmology."]

Captain Glazier and his Lake. An Inquiry into the History and Progress of Exploration at the Head-waters of the Mississippi since the Discovery of Lake Itasca. New York and Chicago: Ivison, Blakeman, Taylor, & Company. ["Educational Reporter," extra.]

The Non-contagiousness of Pulmonary Tuberculosis. By Thomas J. Mays, M. D., Philadelphia, Pa. [Reprinted from the "Therapeutic Gazette."]

Uterine Fibroids and other Pelvic Tumors; their Therapeutic Treatment and Conduct to the Menopause. By Henry Fraser Campbell, M. D., Augusta, Ga. [Reprinted from the "New Orleans Medical and Surgical Journal."]

A Clinical Lecture on Herpes Zoster. By William Oliver Moore, M. D., Professor of the Diseases of the Eye and Ear in the New York Post-graduate Medical School and Hospital. [Reprinted from the "Quarterly Bulletin."]

Clinical Studies of Disease in Children. By Eustace Smith, M. D., Fellow of the Royal College of Physicians, Physician to his Majesty the King of the Belgians, etc. Second Edition. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xv–318. [Price, $2.50.]

Twenty-seventh Annual Report of the Medical Superintendent of the State Asylum for Insane Criminals, Auburn, N. Y. For the Year ending September 30, 1886.

The Practitioner's Hand-book of Treatment; or, the Principles of Therapeutics. By J. Milner Fothergill, M. D., Physician to the City of London Hospital for Diseases of the Chest, etc. Third American from the Third English Edition. Philadelphia: Lea Brothers & Co., 1887. Pp. xx–17 to 660. [Price, $3.75.]

Announcement of the Twenty-ninth Annual Session of the Long Island College Hospital, Brooklyn, N. Y.

The One Hundred and Sixteenth Annual Report of the State of the New York Hospital and Bloomingdale Asylum. For the Year 1886.

Reports on the Progress of Medicine.

CUTANEOUS AND VENEREAL DISEASES.

BY GEORGE THOMAS JACKSON, M. D.

Horsford's Acid Phosphates in Skin Diseases.—Startin ("Med. Press and Circular," Jan. 19, 1887) has found this preparation of great service in the treatment of general eczema, general psoriasis, late syphilis, and lichen ruber.

The Ætiology of Alopecia Areata.—Schütz, of Frankfort ("Mntshft. f. prakt. Dermat.," Feb., 1887), believes in the parasitic origin of alopecia areata, but regards it as caused by the *Trichophyton* fungus. In six out of eight cases of alopecia areata—that is, of patches of typical baldness without scaling—stumps of hair remained after the hair had fallen. Hairs were taken from the patches and surrounding parts in seven cases, and examined with every precaution to avoid errors. In two cases spores and mycelia similar to, if not identical with, those of the *Trichophyton* were found. Schütz does not wish to appear as an opponent of the neurotic theory, but believes that some cases which, to all appearances, are cases of alopecia areata, may be due to ringworm.

The Clinical Boundaries of Alopecia Areata.—Behrend ("Berlin. klin. Wchnschrft.," Feb. 14) denies absolutely the existence in alopecia areata of either inflammatory symptoms, exudation, or scaling. It is necessary to have in a given case an entire absence of these symptoms to make a diagnosis of alopecia areata from eczema, lupus erythematosus, and ringworm of the scalp. In all these three there are inflammation, exudation, and scaling before there is falling out of the hair, and these manifestations of disease must be overcome before the hair will grow, while the peculiarity of alopecia areata is that the hair falls and grows in again without any such manifestations. In some cases there may be redness, but it is only due to hyperæmia, and is not accompanied by any sign of inflammation. In a few days it disappears, leaving the scalp anæmic and smooth. Further, the stumps of hairs which are sometimes met with about the border of a patch of alopecia areata differ from those met with in ringworm in coming out entire with the lightest pull of the forceps, and in falling out spontaneously in a few days.

Pruritus of the Anus.—This troublesome affection has been found by Bangs ("N. Y. Med. Month.") to be due in some cases to irritation in the genital organs, as by stricture of the urethra, or by acute or chronic enlargement of the prostate, and he has succeeded in curing the pruritus by curing the source of irritation. In one case occurring with acute prostatitis, the intense itching was cured by hot-water rectal injections. In another case of intense pruritus which had resisted all attempts at relief, a very sensitive condition of the urethra was found, dependent upon prolonged sexual intercourse. The patient was cured by the passage of a sound, and by correcting his bad sexual habit. Several other interesting cases are reported, all illustrating the connection in some cases between the itching of the skin and irritation in the genital tract.

The Treatment of Acne.—Lassar ("Therap. Mntshft.," 1887, No. 1) recommends for all forms of acne the following paste:

β-naphthol		10 parts;
Precipitated sulphur		50 "
Vaseline or lanolin, Green soap,	each	25 "

This is to be spread upon the skin to the thickness of the back of a knife-blade, and left on for fifteen or twenty minutes, when it will cause a little burning. It is then to be wiped off with a soft cloth, and the skin powdered with talc. The skin soon becomes inflamed, then turns brown, and finally peels off. The desquamation can be hastened by the application of Lassar's paste with two per cent. of salicylic acid. When the desquamation has ceased, the acne will be found to be greatly benefited.

The Treatment of Erysipelas with Ichthyol.—Nussbaum ("Med. Press and Circular," Jan. 26, 1887) has treated five consecutive cases of erysipelas of the extremities successfully with the application of equal parts of ichthyol and vaseline. The rapidity of cure with this agent he explains upon the theory that the reducing action of ichthyol starves the nutrient soil of the cocci so that they can no longer thrive. The drug is not an antiseptic.

Epithelioma Developing upon a Psoriatic Base.—H. Hebra ("Mntshft. f. prakt. Dermat.," Jan., 1887) reports another case of epithelioma developing upon a psoriatic base. This makes the fourth case of the kind reported, one having been reported by Cartay in 1878, and two by White in 1885. In White's cases and Hebra's there was a transition stage of warty growth of the plaques, a form to which the name of psoriasis verrucosa is given. These cases should make us careful of prognosis when we see a case of psoriasis take on a warty growth; and they show, further, that psoriasis is inflammatory in its nature and not a mere parakeratosis.

Epithelioma Cured with Chlorate of Potassium.—Reclus ("Gaz. des hôp.," March 1, 1887) reports a number of cases cured in a few weeks by keeping the part covered with compresses wet with a saturated solution of chlorate of potassium. He regards this method as valuable in cases where for any reason an operation with the knife is contra-indicated.

Impetigo Contagiosa in Children.—Zit, of Prague, has contributed to the "Archiv f. Kinderheilkunde" (1887, vol. viii, Heft iii) a very complete study of impetigo contagiosa, founded upon personal observations made in forty cases. He recognizes the disease as a separate entity. He found that in many if not most cases there were no prodromal symptoms, and that the disease developed slowly from one or more initial lesions. When it attacked one member of a family, the other members were liable to be affected with it, one after the other. The general health of the children did not seem to be affected. The pustule begins as a lentil-sized, brownish-red spot, with the epidermis over it loosened. It itches and very soon becomes surmounted with a bleb which bursts before long. In his cases the blebs were of various sizes up to that of a large pea. They were not fully distended, and their contents were thin, yellowish, and sero-purulent. They were most frequently found on the head, face, neck, forearm, fingers, toes, and shins; seldom on the abdomen, and never on the back. After they burst they left round crusts, which were yellowish or amber-colored; or, if mixed with blood, blackish. They at times attain large size and become very thick, but there is no inflammatory reaction in their neighborhood. They heal readily without scars; but for a time a pigmented spot is observable at the site of the lesions. They are isolated and the skin between them is healthy. Children are most liable to the disease, especially those of the very poor. It is eminently contagious by contact and by self-inoculation. As yet no parasite has been proved positively to be the cause. The duration of the disease varies with the care that is bestowed upon the child; it may last many months. In the treatment, a one-per-cent. solution of bichloride of mercury was found most efficacious. If the eruption is extensive, sublimate baths may be advised. Where the crusts have been detached, the raw places may be dressed with sugar or with calomel. The children should be kept perfectly clean, whatever treatment is used.

Cassia Alata in the Treatment of Ringworm.—Conillebault ("Thèse de Paris," 1886) has found that neither tincture of iodine, sulphur, bichloride of mercury, nor oil of cade gives such prompt results in the treatment of ringworm of the body as rubbing the parts with the leaves of *Cassia alata* moistened with water. Where the fresh leaves are not attainable, an extract prepared with acetic acid is advised.

Wet-nurses in the Period of Incubation of Syphilis.—Fournier ("Arch. de tocol.," Dec., 1886) draws attention to the danger of wet-nurses, apparently healthy at the time of their engagement, developing chancres on the breast subsequently, derived from syphilitic children they have previously nursed. It is almost impossible to absolutely protect children from this danger, on account of the slowness of incubation of the chancre. Should such an accident occur, he advises that the child, if still showing no symptom of syphilis, be fed on the bottle for a few weeks and carefully watched for any manifestation of the disease. The nurse should be retained and care exercised to prevent her milk from drying up. If at the end of a few weeks the child should still continue healthy, a healthy nurse may be obtained for it. But should it manifest syphilis, then the syphilitic nurse may resume her duties. Of course, if at the time of consultation the child is syphilitic, there is no reason for sending the nurse away or stopping the nursing of the child.

Acquired Syphilitic Vitiligo is the name applied by Poelchen ("Arch. f. path. Anat. u. Physiol. u. f. klin. Med.," cvii, 3, 1887) to the white round or elliptical spots left on the skin, especially of women, by a macular syphilide. He has found that these spots only occur when the skin is protected from pigment-producing agents, especially sunlight; and that they last for from a few days to four years.

The Various Centers of Reproduction of the Syphilitic Virus.—Neumann ("Wien. med. Wchnschr.," 1887, 8, 9) has found by microscopical examination that, besides the lymphatics, which have long been known to be reservoirs of syphilitic virus, there are many other centers of reproduction of the contagium syphiliticum in the skin and mucous membrane. At the site of an active lesion there remains for months or years a collection of round cells which only require some agent to irritate them, in order to wake them up to new life and to the of production a specific lesion or focus of contagion. He would thus explain the appearance of a papular syphilide upon the nose following an eczema or seborrhœa; a relapse of a specific eruption upon the scrotum or the anal fold from the occurrence of an intertrigo; the communication by a kiss on the denuded mucous surface of the lip; and many other apparently strange relapses of the disease after it had been regarded as cured for months or years. In course of time the exudation cells become changed, undergo fatty or cheesy degeneration, and lose their virulence.

The Treatment of Gonorrhœa.—Casper, of Berlin ("Berl. klin. Wchnschr.," Jan. 31, 1887), has found the oil of sandal-wood very useful in acute gonorrhœa, when given in doses not to exceed forty drops a day. Larger doses he has seen produce congestion of the kidneys. In chronic gonorrhœa this oil is useless; nor has he found any benefit from the use of antiseptics, such as corrosive sublimate, resorcin, carbolic acid, and permanganate of potassium, though he fully believes in the *Gonococcus* of Neisser. The reasons for the intractability of chronic gonorrhœa are believed by him to be changes in the constitution of the individual, and inadequate application of the medicament chosen. Rheumatism, scrofula, and syphilis all interfere with the successful treatment of a case. The second factor, the inadequacy of application, is overcome by him by the use of grooved sounds, and the employment of lanolin as a base for his chosen ointment. He recommends the following:

Nitrate of silver (dissolved in the smallest amount of distilled water)	½ to ¾ part;
The purest anhydrous lanolin	35 parts;
The purest olive-oil	15 "

This is rubbed into the grooves of the sound with a spatula; the anterior portion of the sound is oiled, and then passed into the urethra as far as is necessary to bring the ointment into the required place. The sound is left in the urethra as long as possible, say for half an hour. Should the patient have a chill or suffer from much pain, should the penis become erect or the bladder contract, the sound is to be withdrawn. The operation is to be repeated every second day. This procedure is successful in a great number of cases. Some refractory cases will yield to the direct application through a hollow sound of one to ten drops of a one-to-twenty-per-cent. solution of nitrate of silver.

Miscellany.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending April 7th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending March 19th corresponded to an annual death rate of 22·4 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest death rate was recorded in Birkenhead, viz., 13·9, and the highest in Manchester, viz., 33·2 in a thousand.

London.—One thousand six hundred and fifty-two deaths were registered during the week ending March 19th, including 84 from measles, 15 from scarlet fever, 13 from diphtheria, 42 from whooping-cough, 7 from enteric fever, 1 from typhus fever, 1 from choleraic diarrhœa, and 16 from diarrhœa and dysentery. There were 474 deaths from diseases of the respiratory organs. Different forms of violence caused 65 deaths. The deaths from all causes corresponded to an annual rate of 20·4 in a thousand. In greater London, 2,016 deaths were registered, corresponding to an annual death rate of 19·4 in a thousand of the population. In the outer ring, 18 deaths from measles, 7 from diphtheria, and 7 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending March 19th, in the sixteen principal town districts of Ireland, was 27·3 in a thousand of the population. The lowest rate was recorded in Galway, viz., 6·7, and the highest in Londonderry, viz., 32·1.

Dublin.—One hundred and ninety-eight deaths were registered during the week ending March 19th, including 2 from scarlet fever, 1 from diarrhœa, 3 from enteric fever, and 2 from erysipelas. Diseases of the respiratory organs caused 47 deaths. In thirty-six instances the causes of death were uncertified, there having been no medical attendant during the last illness. The deaths from all causes corresponded to an annual rate of 29·2 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending March 19th was 26·2 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Dundee, viz., 15·8, and the highest in Aberdeen, viz., 41·7 in a thousand. The aggregate number of deaths registered from all causes was 655, including 1 from small-pox, 50 from measles, 9 from scarlet fever, 6 from diphtheria, 28 from whooping-cough, and 11 from diarrhœa.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,763,937, during the week ending March 5th, corresponded to an annual death rate of 24·7 in a thousand. The lowest rate was recorded in Wiesbaden, viz., 10·9, and the highest in Augsburg, viz., 36·3 in a thousand.

Netherlands.—The deaths registered in twelve cities of the Netherlands, having an aggregate population of 1,101,954, during the month of January, 1887, corresponded to an annual death rate of 26·5 in a thousand. The lowest death rate was recorded in Leeuwarden, viz., 20·8 in a thousand, and the highest in Utrecht, viz., 34·9 in a thousand.

New Zealand.—The deaths registered in the four principal boroughs of New Zealand, having an aggregate population of 98,106, during the year 1886 corresponded to an annual death rate of 14·5 in a thousand. The lowest rate was recorded in Dunedin, viz., 12·6, and the highest in Wellington, viz., 17 in a thousand.

Palermo.—The United States consul at Palermo states, March 9, 1887, that "cholera has not reached this city thus far, and there is little or no apprehension that it will. Unlike other periods of cholera prospects during the last three years, the people seem tranquil and fearless. The usual 'demonstrations' have not been held, and it seems, should the cholera present itself, compared with other occasions, few will fear it. Nothing has been done to improve the sanitary condition of the city since the last epidemic." One hundred and eighteen deaths were registered during the week ending March 19th, including 2 from enteric fever, 2 from scarlet fever, and 4 from diphtheria.

Calcutta.—Four hundred and ten deaths were registered during the two weeks ending February 19th, including 36 from cholera and 2 from diphtheria.

Guayaquil.—One hundred and thirty-five deaths were registered during the two weeks ending March 10th, including 17 from yellow fever, 13 from small-pox, and 52 from enteric fever.

Havana.—Four cases of yellow fever were registered during the week ending March 24th, but no deaths from that disease.

Malta.—The Government, under date of March 14th, has directed that steam-vessels arriving there within twenty-one days of leaving Sicily will, if they have not been at Catania within that period, be allowed to enter Marsamuscetto harbor, for the purpose of taking coals and provisions only, in quarantine. Such vessels will be obliged to leave immediately after having taken coals and provisions.

Paris.—One thousand two hundred and forty-three deaths were registered during the week ending March 19th, including 7 from small-pox, 14 from whooping-cough, 36 from enteric fever, 2 from scarlet fever, 51 from diphtheria, and 51 from measles.

Reims.—Forty-nine deaths were registered during the week ending March 19th, including 1 from small-pox, 2 from whooping-cough, 1 from enteric fever, 3 from scarlet fever, and 1 from diphtheria.

Nice.—One hundred and twenty-four deaths were registered during two weeks ending February 15th, including 4 from small-pox and 2 from enteric fever.

Munich.—One hundred and twenty-seven deaths were registered during the week ending March 12th, including 1 from small-pox, 1 from enteric fever, 1 from scarlet fever, and 2 from diphtheria.

Warsaw.—Four hundred and ten deaths were registered during the two weeks ending March 12th, including 17 from small-pox.

Genoa.—One hundred and twenty-four deaths were registered during the week ending March 19th, including 6 from small-pox, 3 from enteric fever, 1 from scarlet fever, and 2 from diphtheria.

Paita, Peru.—Four deaths were registered during the week ending March 5th, including 1 from small-pox.

Bordeaux.—One hundred and twenty-five deaths were registered during the week ending March 19th, including 3 from enteric fever.

Barmen.—Forty-three deaths were registered during the week ending March 19th, including 1 from diphtheria, 1 from whooping-cough, 3 from typhus fever, 1 from cholera morbus, and 1 suicide.

Bremen.—Fifty-nine deaths were registered during the week ending March 12th, including 1 from diphtheria and 4 suicides.

Leipsic.—Sixty-three deaths were registered during the week ending March 19th, including 1 from scarlet fever, 3 from diphtheria, and 1 suicide.

Amsterdam.—Two hundred and thirteen deaths were registered during the week ending March 20th, including 1 from enteric fever, 1 from scarlet fever, and 2 from diphtheria.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM— Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Calcutta	February 12.	433,219	188	17	....	....	....	....	....	1
Calcutta	February 19.	433,219	222	19	....	...	....	....	....	1
Guayaquil	March 3.	35,000	74	..	6	8	....	31	....	....
Guayaquil	March 10.	35,000	61	..	11	5	....	21	....	....
Paris	March 19.	2,260,045	1,243	..	....	7	....	36	2	51
Reims	March 19.	97,903	49	..	....	1	....	1	3	1
Munich..........	March 12.	269,000	127	..	....	1	....	1	1	2
Warsaw..........	March 5.	431,572	226	..	....	12	....	....	....	....
Warsaw..........	March 12.	431,572	184	..	....	5	....	....	....	....
Genoa	March 19.	179,395	124	..	....	6	....	3	1	2
Paita, Peru	March 5.	3,500	5	..	....	1	....	....	....	....
Bordeaux........	March 19.	240,582	125	..	....	....	....	3	....	....
Barmen..........	March 19.	108,000	43	..	....	....	3	....	....	1
Bremen..........	March 12.	119,000	59	..	....	....	....	....	....	1
Leipsic...........	March 19.	170,000	63	..	....	...	....	....	1	3
Amsterdam	March 20.	378,690	213	..	....	....	....	1	1	2
Glasgow	March 19.	487,943	304	..	....	1	....	....	6	3
Belfast...........	March 19.	224,422	135	..	....	....	2	1	1	1
Leghorn	March 20.	101,172	43	..	....	....	....	....	1	....
Palermo	March 19.	250,000	118	..	....	....	....	2	2	4
Toronto..........	March 26.	120,000	29	..	....	....	....	...	....	1
Stuttgart.........	March 19.	125,510	38	..	...	....	....	....	....	....
Mannheim.......	March 5.	65,000	20	..	....	....	....	....	....	....
Cadiz............	March 19.	65,028	40	..	....	....	....	....	....	....
Gibraltar.........	March 13.	23,631	12	..	....	....	....	....	....	....

Glasgow.—Three hundred and four deaths were registered during the week ending March 19th, including 1 from small-pox, 6 from scarlet fever, and 3 from diphtheria.

Belfast.—One hundred and thirty-five deaths were registered during the week ending March 19th, including 2 from typhus fever, 1 from enteric fever, and 1 from diphtheria.

Leghorn.—Forty-three deaths were registered during the week ending March 20th, including 1 from scarlet fever.

Mayence.—Twenty-six deaths were registered during the week ending March 12th, including 1 from diphtheria.

Toronto.—Twenty-nine deaths were registered during the week ending March 26th, including 1 from diphtheria.

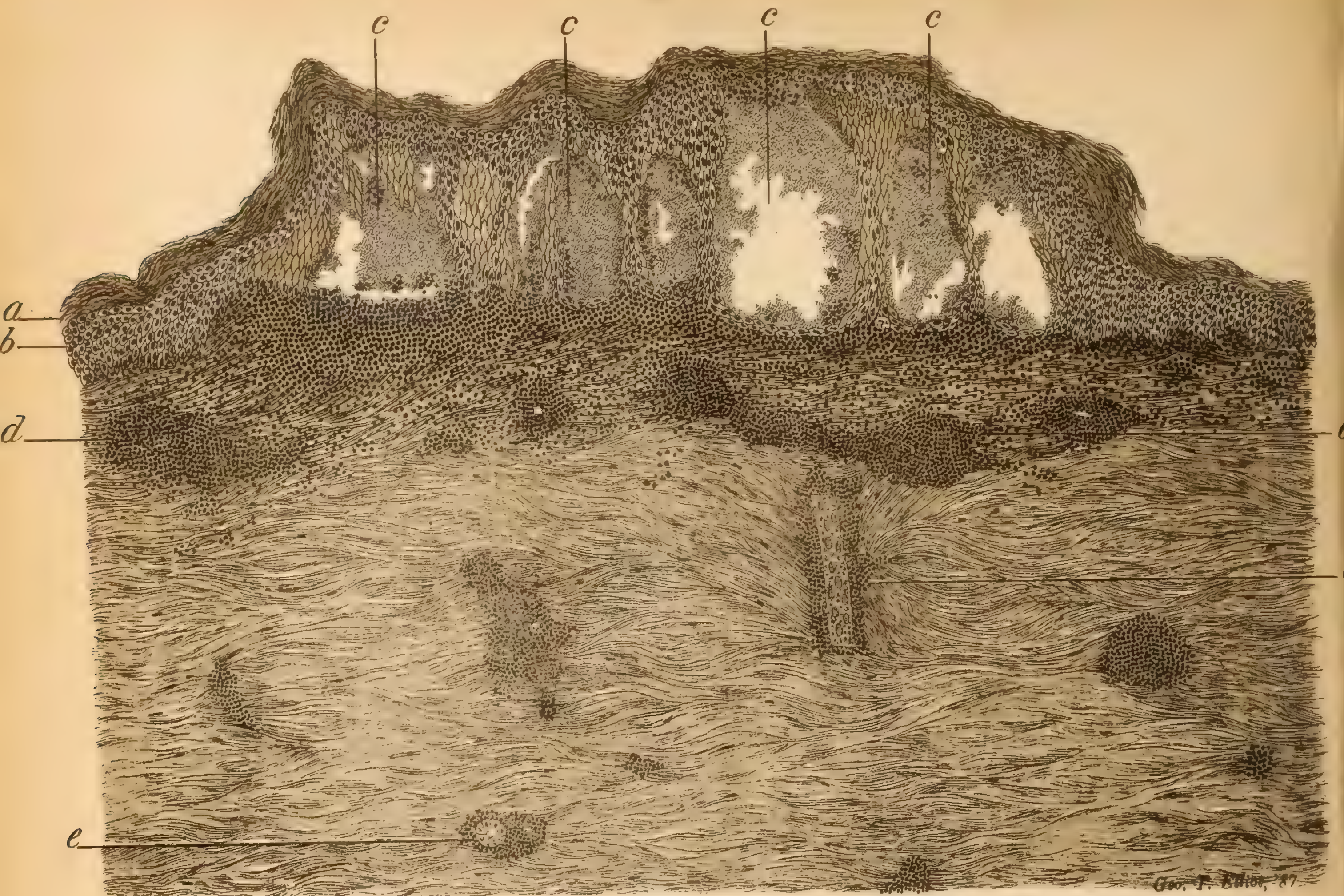
The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin," for February, the whole number of deaths reported was 6,653, including 1,058 from zymotic diseases.

The Health of Michigan.—During the five weeks ending April 2d, according to the summary prepared by the secretary of the State Board of Health, Dr. Baker, diphtheria was reported from forty-six places, scarlet fever from fifty-two, typhoid fever from thirteen, and measles from thirty-five.

The Health of Boston.—The reports of cases and deaths from infectious diseases that were returned to the Board of Health during the week ending Saturday, April 9th, were as follows: Diphtheria, 18 cases and 2 deaths; scarlet fever, 24 cases and 3 deaths; typhoid fever, 14 cases and 2 deaths; measles, 43 cases and 4 deaths. There were also 34 deaths from consumption; 21 from pneumonia; 13 from heart disease; 11 from bronchitis; and 4 from marasmus. The total number of deaths was 205, against 191 the corresponding week last year.

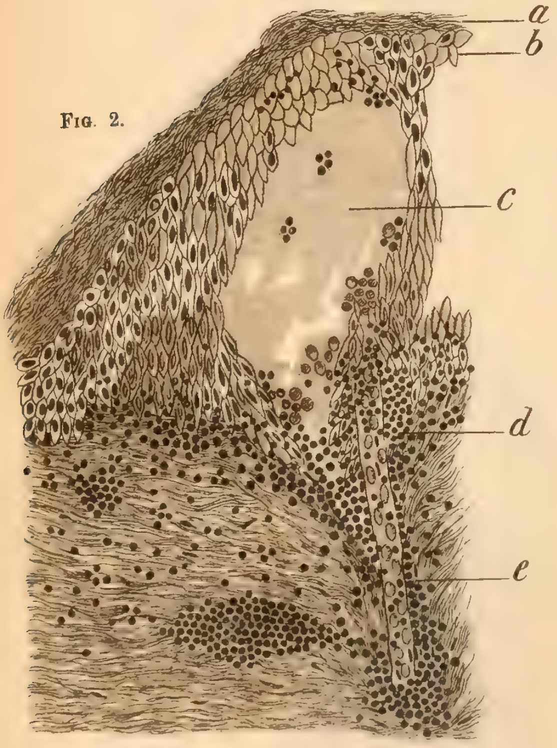
("NEW YORK MEDICAL JOURNAL," APRIL 23, 1887.)

FIG. 1.



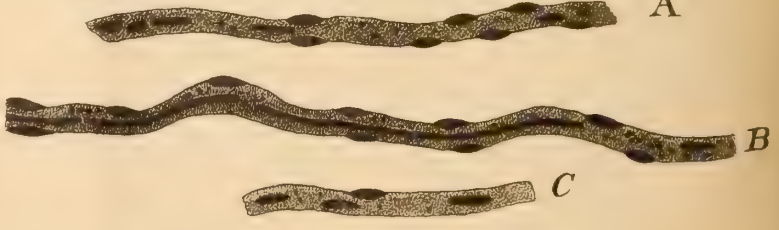
Vertical section through a vesicle of hydroa herpetiforme. *a*, epidermis; *b*, rete Malpighii; *c*, several loculi of vesicle—between each loculus are columns of rete, the cells of which are some normal, others more or less degenerated; *d*, blood-vessels; *e*, duct of sweat-gland.

FIG. 2.



Duct of sweat-gland opening into cavity of vesicle—only one loculus of vesicle shown.

FIG. 3.



Three nerve-fibres situated in papillary layer of corium and enlarged.

Original Communications.

A CONTRIBUTION TO THE HISTOLOGY AND PATHOLOGY OF HERPETIFORM HYDROA.[*]

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The subject of hydroa is one around which there is so much confusion and uncertainty that a short retrospective view of the origin of the term, of the widely varying use to which it has been put, and of the opinions regarding it held by some of the more prominent writers on dermatology, will be excusable before reporting the history and microscopical examination of the case which forms the basis of this article.

The name hydroa was first given by Bazin[†] to certain forms of vesicular and small bullous eruptions which he was not able to class together with other affections characterized by similar lesions. He made three divisions—hydroa vesiculeux, hydroa bulleux, and hydroa vacciniforme; but, though he demonstrated the existence of a distinct disease, yet, as was shown subsequently, he included under the designation eruptions which had no connection whatever with it.

Bazin's description does not seem to have been received with great favor by the French dermatologists. With a few exceptions, they only refer to it in their writings, while in the latest work of one of them, Hardy,[‡] we do not even find hydroa mentioned. It can not be said to be accepted by the Germans as yet, since they give no description of the affection, but dispose of it with the bare statement that Bazin applied the name to a form of vesicating erythema, and that Tilbury Fox afterward described it, and divided it into three forms.[#]

The literature of hydroa is at best meager. Nothing of importance appeared in regard to it during the few years subsequent to the publication of Bazin's book, and only from 1870 on did any interest seem to be displayed in it. The attention of the English had been directed toward the disease, and they had begun to study it, but their views were decidedly against it, and not until a number of years later were any of them inclined to accept hydroa as a distinct and separate affection of the skin. In the mean time the Americans had entered the field, and within certain limits had accepted the hydroa given by Bazin; but yet it must be said that the credit of establishing it upon a satisfactory basis is due especially to the English.

The first serious consideration of the subject was made by Hutchinson,[‖] who devoted considerable editorial space to it in the "British Medical Journal." He reported six cases which he considered were examples of Bazin's hydroa, and thought that it had a close connection with erythema and urticaria. He concluded, however, that it was only a vesicating form of erythema papulatum. A few years later[*] he again modified his opinion, and was in favor of regarding iodide of potassium as an important causal factor in the production of the disease.

Tilbury Fox,[†] in 1873, described the various forms given by Bazin under the head of "Anomalous Forms of Bullous Eruptions; Hydroa," but objected entirely to the use of the term. According to him, these eruptions were in reality unusual manifestations of herpes iris and of pemphigus pruriginosus.

In 1876, G. H. Fox[‡] gave the clinical history of a case which he considered to be hydroa, but he advanced no opinion in regard to its nature. The discussion on this case, at a meeting of the New York Dermatological Society, was also inconclusive, only the mention of similar eruptions having been seen by the various members being brought out.

In 1877, L. D. Bulkley[#] reported two cases, and was the first in America to state his belief in the entity of hydroa. He held that it was entirely distinct from herpes and pemphigus, and also expressed the opinion that the eruption was closely connected with, if not dependent upon, the nervous system.

In 1878, Saundby[‖] described a case under the name of purpuric hydroa, but, after the patient had had a second attack, concluded that the eruption was a bullous urticaria. About the same time G. H. Fox[△] reported another case seen by him, and maintained that some vesiculo-bullous eruptions could justly be classed under the name hydroa, since they were neither herpes nor pemphigus. In this he agreed with L. D. Bulkley (*loc. cit.*), only he expressed his convictions much more forcibly and decisively.

We next find, however, Sangster and Malcolm Morris[◊] objecting absolutely to the existence of such a disease as hydroa, and, in addition, maintaining that the term was both illogical and misleading, while Finny[◊] applied it to an iodide-of-potassium eruption.

In 1880 a new stimulus to the study of the disease was given by Tilbury Fox.[‡] The opinions previously expressed by him seemed to have undergone a great change, for, taking up the subject again, he states his belief, within certain bounds, in Bazin's hydroa as a distinct and separate disease. He divides it into three forms—simple hydroa, herpetiform hydroa, and bullous or pruriginous hydroa. His description is unquestionably the most comprehensive and the best which has yet been given, and stamps the affection with an individuality which is nothing less than convincing.

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[*] Read before the New York Dermatological Society, February 22, 1887.

[†] "Leçons théoriques sur les maladies de la peau," Paris, 1862.

[‡] Hardy, "Traité des maladies de la peau," Paris, 1886.

[#] Weyl, von Ziemssen, "Hautkrankheiten," Th. ii, p. 541.

[‖] Hutchinson, "Brit. Med. Jour.," May 14, 1870.

[*] Hutchinson, "Brit. Med. Jour.," 1873.

[†] Tilbury Fox, "Skin Diseases," etc., London, 1873.

[‡] G. H. Fox, "Arch. of Dermatology," New York, vol. iii, No. 1.

[#] L. D. Bulkley, "Arch. of Dermatology," New York, vol. iii, No. 3.

[‖] Saundby, "Brit. Med. Jour.," 1878.

[△] G. H. Fox, "Arch. of Dermatology," New York, 1878, No. 3.

[◊] Sangster, Malcolm Morris, Finny, "Trans. of the Brit. Med. Assoc.," reported in "Arch. of Dermat.," New York, 1879.

[‡] Tilbury Fox, "Arch. of Dermatology," 1880, No. 1.

More lately cases have been reported by A. R. Robinson,* who agrees with Tilbury Fox; by R. W. Taylor,† who gives the clinical history of an eruption which he considers identical with the hydroa bulleux of Bazin; and also by H. Radcliffe Crocker,‡ while Duhring # maintains that many cases of so-called hydroa belong to his dermatitis herpetiformis.

These are possibly only a few of the opinions which exist in regard to the disease, but they are sufficient to illustrate the history of this obscure affection which, though first described by Bazin in 1862, yet required so many years before receiving even a moderate amount of acceptance at the hands of the dermatologists of the world. That this acceptation is due in great part to the late Tilbury Fox seems to me unquestionable, since he first definitely described and categorized the disease and pointed out its salient characteristics and also Bazin's errors, though it must be acknowledged that, previous to him, Bulkley and Fox in America had begun to lay the foundations which led to its recognition as a separate and distinct affection.

Turning to the clinical symptoms which characterize hydroa, I would state that I have followed those given by the late Tilbury Fox, and it is upon them that the diagnosis of the case reported in this article is based. According to him, the lesion is a small vesicle or bulla developing from a red itchy papule or patch. In hydroa simplex the vesicles are found single and discrete, more or less localized upon the face, arms, and shoulders. It appears at times as an acute eruption, running a course of from ten to twenty days without disturbance of the general health, or again, breaking out in successive crops, it becomes chronic. When acute, the basic infiltration is not very marked and the amount of itchiness is slight, but they both increase progressively as the affection becomes chronic. There is no sharp division between simple and herpetiform hydroa, the two forms being always more or less co-existent, only the preponderance in the arrangement of the vesicles in groups upon a reddened elevated base or patch constitutes the division to which the additional characteristic of herpetiform is given. In the acute outbreaks the tendency to the formation of erythematous circular patches, bounded peripherally by vesicles, is not marked, though they are the rule in the chronic forms, as mentioned by Crocker and others. This brief *résumé* of the clinical symptoms will sufficiently introduce the following case:

W. S., aged twenty-three, a native of the United States, a wood-turner by trade, presented himself, October 1, 1886, at the New York Skin and Cancer Hospital in Dr. Bulkley's service. He was of wiry build, medium size; had always been and was then in perfect health. His bowels were regular, he had no drinking habits, his work was hard, and he always felt very tired at the end of the day. His appetite had not been very good for some weeks, but he had had no subjective gastric disturbances. He had never before had any eruptions on the skin.

He stated that on the Saturday preceding the appearance of the eruption he had been at a picnic and had passed much of the time lying on the ground, feeling afterward a little chilly. On the following Monday, September 27th, he noticed the presence of a number of small blisters along the margin of the pinna of the left ear. They were small, separate from each other, and somewhat itchy. On the following day, September 28th, the eruption showed itself upon the left hand and forearm, and on September 29th on the right hand and forearm. The backs of the hands and the wrists were first affected. On these parts small red, itchy papules and erythematous blotches of variable size appeared, and their presence was also quickly noted on the arms. The eruption increasing, on the blotches papules developed, which in turn became small vesicles, while new patches, vesicles, and papules continued appearing.

Status præsens.—The lesions which had first shown themselves on the ear had disappeared, and only a few small crusts were found there. The eruption was now situated entirely on the forearms and hands, but to a greater extent upon the left side. Upon this extremity, more especially on its extensor and ulnar surface, but also on the flexor aspect and upon the backs of the hands, a large number of lesions were seen. They were single and also aggregated into groups, and consisted of hard papules, small vesicles, and bullæ of the size of a pea. A grouping of the lesions largely predominated, and they were found by twos, and even up to twenty and thirty, standing together upon one base. The zone of redness around the larger groups was narrow, but quite broad around the single vesicles and the small groups. At the wrist, more especially upon its ulnar side, there was a very extensive group of bullæ of about the size of a large pea. It extended from the joint a distance of three inches upward, and laterally about an inch over the anterior and posterior surface of the arm. The bullæ forming this group had become confluent, yet its puckered appearance pointed out the various septa which had originally divided the lesions one from the other. Over the flexor surface of the arm there were also some single vesicles and groups of three and four, but the eruption was much less here than upon the extensor side. Above, the outbreak of the lesions did not occur beyond the elbow, but converged more especially toward the ulnar notch. Their epidermal wall was strong and tense, and did not rupture easily. On the back of the hand and on the fingers there was quite a large number of papules and vesicles, grouped and single. One very large group was situated on the surface lying between the metacarpal bones of the index-finger and of the thumb, and it presented the same appearances which accompanied the one at the wrist. As already mentioned, the eruption began to appear on the right hand and forearm on September 29th. The lesions here, when I saw the patient, were the same in nature and presented the same characteristics as those on the left upper extremity, only they were more discrete and not so abundant. They also were situated especially over the course of the ulnar nerve and upon the extensor surface of the forearm. On the backs of the hands and on the fingers there were likewise papules and vesicles, single and grouped. On both the upper extremities the various single lesions and groups were separated from one another by areas of normal skin. The contents of the vesicles and bullæ were of a light straw-color, and only in a few was slight cloudiness of the fluid noted. Here and there were a few small crusts and marks of scratching. On the left side the eruption had not been very pruritic, but on the right hand and arm the itching was very much more intense and was complained of by the patient.

The patient was given four doses of Fowler's solution, and unguentum zinci oxidi was applied over the arms and hands. The fluid was removed from the large patch near the left wrist and was found to be of neutral reaction.

October 6th.—The patient being seen again, it was found that

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* A. R. Robinson, "Journ. of Cut. and Ven. Dis.," 1885.

† R. W. Taylor, "Journ. of Cut. and Ven. Dis.," 1886.

‡ Radcliffe Crocker, "Brit. Med. Jour.," May, 1886.

Duhring, "Med. News," October, 1885.

the major part of the eruption present at the time of his first visit had disappeared. In place of the large groups and many of the single lesions, only small crusts and the flakes of epidermis which had formed their covering were found. The redness surrounding the lesions had diminished to a great extent, but new single vesicles and small groups of three or more had cropped out here and there over the arms and hands. He felt, however, in every way well, though still troubled by the itching, which had become more intense. The treatment was continued, but the patient unfortunately did not return.

From this clinical history it can be seen that, so far as its localization, its course, its objective symptoms, and its termination went, the case agreed substantially with an acute outbreak of herpetiform hydroa as given by Tilbury Fox. It was peculiar, however, in its following so closely and especially the course of the ulnar nerve, and also in having certain symptoms which might cause it to be confounded with some other grouped affections. I specify grouped affections because the majority of the lesions were in groups of two or more, and for that reason those eruptions which have or might have the same localization as in this case, but are never grouped, would be excluded from a comparison with it. Among these come erythema multiforme, eczema vesiculosum artificiale, and pemphigus. The eruption to which it bore the greatest resemblance was zoster, but from this it differed in important particulars. It was symmetrical, a very rare occurrence in zona. It was neither preceded, nor accompanied, nor followed, by any subjective sensation of pain, the absence of which is exceptional in herpes of the type under consideration. Besides, in this latter, the lesions which appear are slow in development, are always grouped, and do not exist as single papules and vesicles more or less plentifully distributed between the characteristic patches. The course of the lesions is also much slower than in hydroa, and they almost invariably become pustular and leave behind a slight or great amount of scarring and pigmentation. Finally, zoster always follows closely the course of one or more nerves, whereas in this case of hydroa, though most of the lesions were situated in the line of distribution of the ulnar, yet they were also irregularly distributed over the rest of the forearm, the backs of the hands, and the fingers. There were no lesions which bore any resemblance to an herpetic one, and their being arranged in groups was their only point of agreement.

From dermatitis herpetiformis it could be easily differentiated, though it had a few facts in common with it, such as grouped vesicles and some itchiness. But in the acuteness of the outbreak, the localization, the short duration, and the rapid course, the hydroa differed entirely from the clinical symptoms which have been described as accompanying dermatitis herpetiformis.

I do not think it necessary to continue further the comparison of this case with others which might resemble it, since it agreed so accurately with Tilbury Fox's description of hydroa that the correctness of the diagnosis seems to me unquestionable, and I will preferably turn to a consideration of the anatomical features presented by it. Before doing this, however, let me add that I have searched diligently through the literature on hydroa, but have been unable to find any recorded microscopical examination previously made, and that I consequently am obliged to give only the results of my own work.

At the time of his first visit the patient allowed me to excise a portion of skin from the extensor surface of the left forearm, upon which a group of vesicles was situated. They had appeared only a few hours before I saw him, each was somewhat larger than the head of a pin, and their contents were of a clear straw-color. The specimen was put into 90-per-cent. alcohol for a few hours, then into absolute alcohol, and, when hardened, it was mounted in celloidin and cut with the sliding microtome. The sections were stained with borax-carmine and potash-alum carmine, cleared in oil of cloves, and mounted in damar balsam. They were examined with both low and high powers.

The stratum corneum was broad and well defined, but much of it showed a loosening and a separation of its layers. In some portions near the vesicles, nuclei, which stained moderately well, extended almost up to the external surface. The loosening of the layers of this stratum was principally in the vicinity of the vesicles, but it was also very decidedly marked around that portion of the ducts of the sweat-glands which passed through it, and over some of these latter it was raised up to such an extent as to form cavities of variable size, containing a small amount of granular matter. The stratum lucidum was scarcely demonstrable. The stratum granulosum was seen only to a limited extent, and then consisted of a single layer of cells. The rete Malpighii proper, beyond the immediate vicinity of the vesicles, was not increased in depth, neither were the interpapillary prolongations lengthened. Its cells stained well and appeared unchanged. As we approached the vesicles the rete was seen to be much deeper—double, and even more. Its cells became long and narrow, with their long axes directed perpendicularly to the corium. They had a slightly granular appearance, and were somewhat loosened from one another. Their nuclei were for the most part well stained, but occasionally some were absent, though the shape of the cell was unchanged. In all the sections only two vacuoles were found, and they were situated in the outer wall of the vesicles. The characteristics of the stratum spinosum were only faintly demonstrable, while the basic layer of the rete was proliferating, the cells having long processes extending into the corium. The line of demarkation between these two latter was rather indistinct; the papillæ were flattened and the interpapillary prolongations were only slightly marked. The lesions themselves were multilocular. The loculi were situated in the interpapillary prolongations of the rete, occupying the place of the epithelial cells, which had been destroyed. The external wall was composed of the strata, corneum, lucidum, and granulosum, and more or less of the rete. The amount of this latter which entered into the formation of this wall was variable. In some loculi only a few pale, granular, degenerated epithelial cells with pale nuclei, or even without these, were found along their upper border adherent to the stratum corneum, while in others the rete was quite deep and its cells were for the most part entirely healthy. The point where the wall was thinnest was not constant in all the vesicles, but varied—an important fact, which will be referred to further on and more fully brought out. The lateral walls of the vesicles were also formed by the same layers as mentioned above, and were for the most part sharply defined, but in them were likewise found masses of pale, degenerated epithelial cells. The base of the lesions was constituted by a single layer or by several layers of rete cells, which were compressed, and formed a narrow boundary between the contents of the loculi and the tissue of the corium. In some places it was, however, entirely wanting, having succumbed to the degenerative process.

The septa separating the various loculi consisted of long, spindle-shaped epithelial cells. These columns were of variable size and the cells composing many of them were unchanged, but, as may be seen in Fig. 1, the healthy portions were for the most part situated in the centers, while those next to and nearest to the contents of the loculi were in all stages of degeneration; in fact, in some places their former presence was only shown by a well-defined, moderately broad zone of granular matter, while in others, in addition to this, nucleated cells and cells which had lost their nuclei were still distinguishable.

It can also be seen from Fig. 1 that the loculi were situated in the interpapillary prolongations of the rete. As evidence of this we see the blood-vessels proceeding upward almost to the base of the septa, and a slight prominence of the corium at these points marking the papillæ. And, besides, one other factor, to be mentioned shortly, removes this question entirely from the realm of doubt. The contents of the vesicles consisted of granular matter, a few pus-cells, and free nuclei.

The corium, immediately below the lesions, was slightly œdematous, and along the bases of these latter a more or less dense infiltration of small round and wandering cells was observed. The infiltration was also sprinkled throughout the subcapillary layer, but more especially around the blood-vessels, and it gradually decreased until at a short distance from the vesicles it was localized entirely around the vessels. The remainder of the corium was normal, except in the immediate vicinity of the vessels, the nuclei of which were multiplied and which throughout their entire extent were surrounded by a broad zone of small round cells. At a distance from the lesion, however, these characteristics were necessarily much diminished, and the changes seen were only slight. The hair-follicles and the sebaceous glands were normal.

Important and decided deviations from the normal were observed in the sweat-glands and their ducts. Certain changes which were found connected with the horny epidermis have already been mentioned, but there were others in the rete and corium which demanded careful examination. These were not limited to one or two of the ducts, but nearly every one in the sections showed more or less degeneration, it might be only at its exit or throughout its entire extent. The rete portion of certain of them was somewhat dilated, and the cells in their immediate vicinity were pale, granular, and not staining well; in others the cells were a little swollen, their protoplasma being slightly clearer and broader than normal. In no place, however, was any vacuole formation seen. Around one of the ducts, distant from the vesicles, these features were especially marked. At its upper portion, contiguous to the horny epidermis and extending through almost one half of the rete, but more on one side than on the other, a mass of cells was seen presenting the same degenerated appearances as were found in the walls of the vesicles. Those forming and those nearest to the canal of the duct had lost their nuclei, and were unstained and slightly granular, but still retained their contour. Those situated between these and healthy epithelium contained their nuclei, but were pale, granular, and only very slightly stained. The line of demarkation separating the healthy and degenerated cells was not sharply defined, but there was a gradual transition from one to the other. In examining the vesicles, it was found that in many of the sections the duct opened directly into a loculus at its base. This occurred sometimes in the central one, or again in one on the side (Fig. 2). At the point of entrance the duct was surrounded by the infiltration at the base of the lesions, and throughout its entire extent it and the capillaries accompanying it, the nuclei of which were multiplied, were surrounded by more or fewer small round and wandering cells. The epithelium of the duct itself was pale, in places more or less destroyed, its nuclei stained only faintly, and infiltration and wandering cells had passed through its walls and were distributed throughout it. These appearances diminished somewhat in proportion as the ducts penetrated more deeply into the cutis, but owing, unfortunately, to the fact that the specimen was not cut deeply enough, the condition of the glands themselves could only be partially determined. A portion of one coil was found, however, and in it the epithelium was seen to be somewhat detached and pale, some of the cells having lost their nuclei, while surrounding it was the same cellular infiltration which accompanied the ducts.

It only remains to describe the changes found in the nerves. The preparation of the specimen and of the sections after they were cut was not such that the nerves were brought into any particular prominence. Nevertheless, the degenerative features in some were so patent that special preparation could not have demonstrated them more clearly. In Fig. 3 are shown three nerve-fibers, which were situated just below the rete in the papillary layer of the corium. They were all enormously swollen, grayish in color, and granular, while here and there small clumps of pigment were seen. In fiber A only at one end small segments of the axis-cylinder were found, it having entirely disappeared from the remainder. The portions present were stained slightly, but the nuclei of the sheath of Schwann still stained well, being also somewhat increased in number. In fiber C the same condition was present, but there was no trace of any axis-cylinder. In fiber B the axis was present to a greater extent than in the other two, but was also in segments and only lightly stained. The larger trunks seen in cross-section would probably have shown decided changes if they had been properly treated, but I should at present prefer to leave these for future investigation, notwithstanding that they were not normal. The features accompanying the degeneration entitle the process, it seems to me, to be regarded as a parenchymatous neuritis.

As far as the corium and blood-vessels are concerned, the microscopical features are, as a whole, only those found in inflammation in general. There is nothing peculiar in regard to the cellular infiltration of the tissue, nor are there any changes in the vessels which can be regarded as belonging entirely to this affection. We may, consequently, omit any further consideration of them and turn preferably to the vesicular lesions, the connection of the sweat ducts and glands with them, and the relation which the changes in the nerves bear to both of these.

According to Touton,* who has summarized our knowledge in regard to the formation of vesicles, etc., in the skin, there are two ways in which those associated with inflammation originate: by vacuole formation, or, as he termed it, by dropsical degeneration of the epithelial cells, and by a sort of coagulative destruction first described by Weigert,† and to which Cohnheim gave the name of coagulation necrosis. As I have already mentioned, in this case of herpetiform hydroa there was an entire absence of vacuoles, with the exception of two. Their absence would thus exclude their being considered as causal factors in the formation of the lesion, and a legitimate conclusion would be that the epithelial destruction was not due to dropsical degeneration. On the contrary, instead of vacuole formation, we find, not only in the periphery of the vesicles and in their septa, but also in and around the ducts of the sweat-glands, those appearances which accompany coagulation necrosis. The cells are not swollen, but are pale, and lose their nuclei, though preserving for a time their natural contour. In a mass of the epithelium undergoing this degeneration, cells were found in every stage of the process, and it could be seen how they became finely granular, and, finally succumbing to the degenerative process, disappeared entirely, to be replaced by fluid. These features throw the lesions into Touton's (*loc. cit.*) second division, and we have consequently to regard their formation as being due to coagulation necrosis of the epithelium.

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* Touton, "Vergleich. Unters. u. d. Entwick. d. Blasen in d. Epidermis," Tübingen, 1882.

† Weigert, Virchow's "Arch.," vol. lxxix.

Having established this much, let us seek for the point of origin of the vesicles. This seems to me to offer little difficulty. There are many facts in favor of locating it in and around the sweat-ducts. In the first place, we find them opening directly into one or another of the loculi, and it is also in the loculus into which they empty that we find the external wall the thinnest. In fact, as may be seen in Fig. 1, a reasonable presumption existing that the sweat-duct shown enters the loculus just above it, we find that the external wall at that point consists only of the horny epidermis and a few degenerated cells, while in all the remaining loculi a considerable amount of the rete intervenes between their cavities and the stratum corneum. This is again apparent in Fig. 2, in which there is no question about the entrance of the duct into the loculus, and, besides, this same condition of things was distinct in every section in which there was found a direct connection between the vesicle and the sweat-duct. In addition, there were those changes which have been described as being present in the cells of the duct and in those immediately around it, in the uppermost portion of the rete, and it will be remembered that one of them especially showed extensive epithelial degeneration beginning in and about it, its own cells having suffered to the greatest degree. When the definite localization of these changes is taken into consideration, and also the additional fact that epithelial necrosis is not found elsewhere in the rete, there is, it seems to me, every reason for placing the inception of the process in and around the sweat-duct, in that portion of the rete just below the horny epidermis. I would not, however, give the impression that a vesicle develops around and is connected with only one sweat-duct. On the contrary, from the number of implicated ducts found in the sections and connected with the lesions, I hold that the process originated simultaneously in several contiguous ducts. It must be remembered that each section showed different portions of the vesicles, and, consequently, this mode of origin would allow the formation of multilocular lesions to be understood, and also why a duct was found entering a central loculus and another one next to the lateral wall of the vesicle.

It may seem, perhaps, to be a rather daring conclusion to draw in view of what has previously been written on hydroa, but this latter was entirely from a clinical and symptomatic standpoint. We find, for instance, Tilbury Fox (*loc. cit.*) objecting to the term as suggesting sweat, and, besides, none of the writers whom I have been able to consult either mention or consider any possible connection between the sweat-producing glands and hydroa. Nevertheless, a study of the history of the disease and of the cases which have been reported does not seem to exclude this. The affection occurs especially in the spring and in the autumn—seasons during which the skin is most exposed to sudden variations of temperature and the functions of the sweat-glands are most apt to be interfered with. Bazin (*loc. cit.*) himself spoke of the effect that changes of temperature had on the disease, and several observers mention the diminution in the amount of perspiration in proportion as the eruption decreases. Moreover, in the case reported in this article a strong suspicion is warrantable that the patient lay on the ground when in a state of perspiration. He was at a picnic, and it is scarcely a usual thing at such affairs to remain quiet, so that my surmise may not be very incorrect that a sudden shock was communicated to the sweat apparatus. It is true, however, that these facts may be regarded only as presumptions, but yet, when taken in connection with the histological features present, they gain in weight, and would seem to point to an undoubted connection between hydroa and the sweat-glands.

What causal factor or factors were active in producing the lesions is a much more difficult question to answer, but I am inclined to regard the nerve degeneration as the important agent. Schwimmer,[*] Leloir,[†] Jarisch,[‡] and countless others have contributed valuable observations, both anatomical and pathological, which point clearly and unquestionably to the association of cutaneous lesions with morbid processes in the central and peripheral nervous systems, and, in the light of so many recorded facts, it would be curious should a neuritis be present in this case of hydroa and yet not be related in any way to the eruption. It has been said, it is true, that there are always, even in health, certain degenerative changes present in the peripheral nerves; but Leloir (*loc. cit.*) and others assert that they have been unable to find any evidences pointing to that fact, notwithstanding that they have repeatedly examined the skin of persons who had died without having had any cutaneous disease. It has likewise been advanced that the alterations found in the nerves in the neighborhood of a lesion are secondary in origin, and due to it. The testimony of Leloir (*loc. cit.*), Chambard,[#] Vulpian,[‖] Cornil and Ranvier,[△] Weir Mitchell,[◊] and many others does not, however, bear this out, but establishes entirely the contrary.

When we proceed to connect together the nerve degeneration found in this case with the cutaneous manifestations an *a posteriori* conclusion is not immediately possible, yet we obtain a clew when we refer to the anatomy and the physiology of the nerve-supply of the skin and of the sweat-glands. According to Landois,* the sweat-glands have special nerves of secretion, which for the anterior extremities (in cats) run in the ulnar and median nerves and enter into the ganglion stellatum of the sympathetic, or, according to others, go directly to the cord through the spinal roots. For the head, these special nerves arise from the thoracic sympathetic and also pass through the ganglion stellatum. That this special supply exists in man was shown by Adamkiewitz,† while Heidenhain,‡ who eliminated the vaso-motor influences, asserts that the changes in the cells are due to trophic action—in other words, to trophic nerves. This view has been more and more favorably accepted, and we find very lately, among others championing it, Schwimmer (*loc. cit.*) and Kopp,* who regard the sweat production as unquestionably due to trophic nerves.

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[*] Schwimmer, "Die neuropathischen Dermatonosen," Wien u. Leipzig, 1883.

[†] Leloir, "Recherches chir. et anat.-path. s. l. affections cutanées d'origine nerveuse," Paris, 1882.

[‡] Jarisch, "Vierteljhschft. f. Derm. u. Syph.," H. 2 u. 3, 1880.

[#] Chambard, "Des gommes cutanées," Soc. anatomique, 1878.

[‖] Vulpian, "Leçons s. le système nerveux professées au muséum," Paris, 1866.

[△] Cornil et Ranvier, "Manuel d'histologie pathologique," Paris, 1881.

[◊] Weir Mitchell, quoted by Leloir (*loc. cit.*).

To enter here into the theories in regard to these nerves is naturally out of the question; they are fully dealt with by the authors referred to, and also by many others, and it is only their conclusions which are of interest to us. The functions of trophic nerves are considered to be those of guarding and regulating the nutrition of the tissues. The view held at the present day, though not yet fully demonstrated, is that trophic nerves are supplied to every part of the body. We must, therefore, regard the rete and the epithelium of the sweat-ducts, and other constituent portions of the skin, as all possessing these special nerves, which, like those which go to the sweat-glands, are probably to be found in the ulnar and median, in those portions of the skin to which these two are distributed. From the nature of their functions, the nutrition of tissue must suffer should any of those supplying it be destroyed or become diseased, and the morbid change resulting, owing to the more or less intimate connection between the vaso-motor and the trophic nerves, may be accompanied, as in zoster, mal perforant, etc., by manifestations of inflammation. When we now turn to this case of hydroa, we find that it presents features which allow us to connect the nerve changes in a causal manner with the cutaneous lesions, and to regard these latter as the result of disturbed trophic relations. Microscopically, so far as the nerves themselves are concerned, we receive no aid, since it is impossible to determine in that way which are trophic nerves and which are not.

Clinically, we know that the lesions which were examined had been present only a few hours, and that the eruption followed to a striking degree the distribution of the ulnar nerve, being also to a lesser extent situated over the median, only a few being over the radial; that is, it was especially over those nerves—the ulnar and the median—supplying the affected skin, and in which the trophic nerves for the sweat-glands, etc., run. We find microscopically, in connection with the cutaneous manifestations, a diseased state of the nerves, and we have the highest authority for concluding that it is primary and not secondary. Besides, as already mentioned, the pathological changes are found entirely in and around the sweat-ducts and glands, the other appendages of the skin being unaffected. We thus have in this case three prominent factors: the localization over the nerves, the degeneration of the nerves, the morbid changes situated in a constant manner in a certain cutaneous organ; and when we compare these factors with those found in other diseases of the skin which are recognized as being dependent directly upon nerve lesions, the conclusion that the nerve changes stand in a causal relation to the cutaneous eruption in herpetiform hydroa seems to me unavoidable and unquestionable.

Is this, however, the result of trophic disturbances? It can not be absolutely proved, but yet is most probable. As already mentioned, the primary steps leading to the formation of the vesicle were situated in the epithelial cells of that portion of the sweat-duct lying in the rete, and consisted in death of the nucleus and cell. This could not have been due to the direct influence of the accompanying inflammation, since the ducts in which this primary stage was seen were not in its immediate vicinity, but at a distance from it, and there were besides no inflammatory evidences surrounding them. On the contrary, they must have been caused by the nerve changes, since we have shown that a causal connection existed between these and the cutaneous lesions. Now, when we consider that of the three theories—functional inactivity, propagation of inflammation along the nerve-fibers to their peripheral endings, and trophic disturbances—which have been advanced in explanation of the influence of nerve lesions upon cutaneous and other diseases, the two former have been cast out (Vulpian,* Charcot,† Leloir [*loc. cit.*], etc.), and only the last one has been found tenable, we can not be in error if we conclude that, in a case presenting the neurotic features and the nerve lesions described in this article, the cutaneous manifestations are the result of trophic disturbances, and are dependent upon the degeneration of the trophic nerves distributed to the affected part.

From these histological and pathological features my conception of the genesis of the lesions of herpetiform hydroa would be as follows: A primary degeneration of certain special nerve-fibers having occurred, this being peripheral or even possibly central in origin, a disturbance in the nutrition results, with consequent death of the cells of the sweat-ducts in the rete. The destruction of the contiguous cells of the mucous layer ensues, and inflammation is lighted up secondarily and implicates the coils of the sweat-glands and the ducts, already the seat of degenerative changes. Effusion of serum fills the cavities formed by the epithelial destruction, and with this there is also the sweat still produced by the glands. In the lesions, death of the epithelium forming the septa between the loculi progresses, until instead of multilocular we have unilocular vesicles or bullæ, which when grouped may all communicate one with another. These steps in the histogenesis of the disease have, I think, been fully brought out by the facts given.

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* Landois, "Lehrbuch der Physiologie," etc., Wien u. Leipzig, 1886.

† Adamkiewitz, "Die Secretion d. Schweisses," etc., Berlin, 1878.

‡ Heidenhain, "Studien d. physiolog. Instituts zu Breslau," 1868.

* Kopp, "Die Trophoneurosen d. Haut," Wien u. Leipzig, 1886.

* Vulpian, "Vaso-moteurs," tome ii.

† Charcot, "Leçons s. l. maladies du système nerveux," vol. i.

In order to demonstrate the individuality of the histology presented by this case of herpetiform hydroa, allow me to compare it with that of some lesions which have or might have the same clinical localization, and with that of one which has the same anatomical situation. Any one familiar with the anatomy of zoster will immediately perceive the entire want of similarity between it and hydroa. The herpetic vesicles belong to that class formed by a dropsical degeneration of the epithelial cells of the rete (Touton, *loc. cit.*), while in hydroa, as has been shown, they are produced by means of a coagulative necrosis of these same cells. The result in both is the same—a vesicle—but the process by which they are produced is not the same. The lesions in zoster have no particular localization as in hydroa; they originate over the papillæ, and the infiltration is not limited to the blood-vessels, but it is diffuse throughout the entire cutis, extending even into the fatty layer.

Still greater are the differences between the anatomy of hydroa and that of erythema multiforme. Leloir[*] has made the latest examinations of the bullæ and vesicles occurring in this latter affection. He found that in all the lesions the horny epidermis was lifted up *en masse* by the exudation, and, together with some portions of the stratum lucidum, formed the external wall of the lesion. The remaining portions of the stratum lucidum, together with the stratum granulosum, constituted the base. He also found the epidermis in some places raised up in its entirety, but only to a very slight extent. We thus see that there is not a single factor in common between hydroa and erythema multiforme. Dermatitis herpetiformis I shall pass over in this article, since my studies on its histology are shortly to appear elsewhere, but I will compare hydroa with one other affection, the dysidrosis of Tilbury Fox, also called pompholyx and cheiro-pompholyx. It might be omitted, since clinically there is no resemblance between the two diseases, but yet anatomically they both have one feature in common—their localization around and about the sweat-ducts. This would seem, however, to be their only point of similarity, for, according to G. and F. E. Hoggan,[†] who have reviewed the whole subject and have carefully studied a large number of sections, the lesions in dysidrosis originate by vacuole formation in the stratum granulosum, the sweat-duct being only secondarily implicated. There is, consequently, the important distinction between the two that in hydroa the mode of origin is different and begins primarily in the sweat-duct, while in dysidrosis this latter, though it plays in the end an important part in the process, is yet only a secondary factor.

The histological and pathological features which this case of herpetiform hydroa presented, and the facts which have been brought forward and as far as possible connected together upon warrantable and reasonable bases, allow the following conclusions to be made:

1. That in herpetiform hydroa we have an affection which owes its origin to a degenerative process situated in the nerves supplying the affected skin, and that there is every reason to consider it as being trophoneurotic in its nature.

2. That as a result we have the formation of more or less grouped vesicles and small bullæ, which are directly connected with the sweat-ducts, and through them with the sweat-glands.

3. That the point of origin of these lesions is primarily in the epithelium of the sweat-ducts just below the horny layer of the epidermis, extending from there to the cells of the rete Malpighii.

4. That the affection is accompanied by the ordinary symptoms of inflammation, which, however, are secondary and situated especially in the papillary layer of the corium.

5. That its histogenetic and pathogenetic characteristics are sufficiently distinctive to entitle it to be considered as a disease which is separate from all others.

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[*] Leloir, "Lésions d. l'épiderme dans l'érythème polymorphe. Erythème bulleux ou pemphigoïde. Érythème vésiculeux." "Progrès méd.," 1885.

[†] G. and F. E. Hoggan, "Monatsh. f. prakt. Dermatologie," 1883.

INGUINO-PROPERITONEAL HERNIA.[*]

By FRANK HARTLEY, M. D.

Philip H. S., forty-four years of age, married, driver of an ice-wagon, was admitted into Roosevelt Hospital, August 15, 1886. His family history was good so far as known. In his previous personal history there had been no Bright's disease or phthisis. He had had rheumatism at times, and gonorrhœa and chancroid about twenty years before. There was no history of renal colic. The patient affirmed that three years before he had strained himself, which had been followed by a rupture upon the left side. The hernia thus caused had increased, until it had been about as large as a small orange. Though he had been obliged to wear a truss ever since, the rupture had never been a source of discomfort or inconvenience to him. It had come down on the morning of August 10th, five days previous to his admission to the hospital. It was replaced as usual without pain, and there had been no tumor left after reduction. He described it as "slipping away from his finger" as he reduced it, after which he had applied the truss and worked as usual on his ice-wagon. On August 15th he had not been conscious of having overstrained himself, nor of having eaten anything likely to cause indigestion. He had also had up to this day regular movements from the bowels, with no pain or inconvenience in the neighborhood of the rupture. About 7 P. M. he had begun to vomit food. This had been soon followed by a bitter, greenish fluid, not fæcal in odor. With this there had been a distressing hiccough, recurring at intervals of about half an hour. About two hours after the vomiting began he had noticed that the testicle was drawn up toward the external abdominal ring, and had been then conscious for the first time of pain there and in the left groin. This had continued to increase in severity, and had been attended every twenty minutes with spasmodic attacks of sharper pain, localized in the same places. There had been no pain in any other region. He had had no movement of the bowels since the preceding morning, and, though he had passed flatus during the day, had done so but once since 7 P. M.

On admission, examination showed the patient to be a strong, well-nourished man. Pulse not rapid, full, 107; temperature, 101·5° F.; respirations, 24. Vomiting recurred about every half-hour. The matter vomited consisted of a thin fluid, small in amount, having a fæcal odor, and somewhat greenish in color. There was a constant hiccough. The pain was continuous and sharply bounded, and localized in the testicle and left groin—iliac region. There was no other pain in the abdomen, which on examination was shown to be equally distended, not painful to pressure, except in the left iliac region, where a swelling of about the size of two fists could be appreciated. This was somewhat resistant, circumscribed, quite painful under pressure, and dull upon percussion. The anus and rectum showed no change in form nor in the venous return of the blood. The finger could be passed without difficulty into the inguinal canal. The ostium abdominale could not be felt, nor could the tumor be touched. No intestines nor omentum were present in the canal. There were no malformations in or about the urinary or genital organs, nor was there any hernia present in other localities. The urine was passed without difficulty, small in amount, alkaline, 1·029 specific gravity; sediment, triple phosphates; no albumin. Indican was not examined for before the operation.

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[*] Read before the New York Clinical Society, February 25, 1887.

To make a diagnosis of intestinal obstruction was simple enough, but to locate its seat and cause was decidedly the reverse. From the character of the pain, the presence of the tumor, the form of the abdomen, the vomiting, and the history of the case, one was forced to decide on either an internal strangulation independent of the original hernia, or on one in some way connected with it. The want of evidence in the rectum and anus added but little weight to the opinion that it was neither a retroperitoneal hernia, intussusception, nor volvulus. So the failure to find any malformation in the genital organs made it hardly possible that it was due to congenital anomaly in the formation of the vaginal process of the peritonæum and the consequent hernia.

It is well known that, in all cases of hernia occurring simultaneously with an internal strangulation, the best chances for meeting with the obstruction are found near the hernia, or at least upon the same side (Duchaussoy, 35 cases in 39). So it seemed reasonable to give the second place in the diagnosis to all forms of internal strangulation, such as occur from compression, from holes or slits in the mesentery or omentum, looped diverticula, and the first to a strangulation, either in or outside the sac, in some way connected with the hernia, which had existed four days before.

It was first considered a case of apparent reduction (Streubel) in which there was a displacement of the hernia, more or less complete, behind the abdominal ring:

1. As a complete displacement of the whole tumor. Reduction *en masse.*

2. As a tearing of the sac close beneath the neck, with the contents pushed through and into the subperitoneal tissue.

3. As a displacement of the tumor in front of the transversalis muscle, or of the contents alone, in a diverticulum of the sac in the same situation—hernia interstitialis (Goyrand).

4. As a displacement of the contents in a process of the sac before the peritonæum, which existed as a preformed sac; or contents of the preformed sac remained, while those of the inguinal sac were reduced—inguino-properitoneal hernia (Kronlein).

Regarding the reduction *en masse*, it was thought there should have been present at or near the hernia a new tumor at the time of the reduction, four days previous. Also that during reduction he should not have felt the intestines "slip away" from his finger. Moreover, for four days he felt no pain, nor had he noticed any tumor till after his admission into the hospital. These two facts, coupled with the one that he had worked on his ice-wagon for four days without pain or discomfort, and had a daily normal movement of the bowels, led to the exclusion of a reduction *en masse.* We know that the tearing of the neck of the sac is most liable to occur posteriorly. Also that the contents are displaced between the peritonæum and fascia transversalis, if the latter does not tear. Again, it may be torn (Turati), or the neck may be completely torn from the sac (Hulke), or the neck may be separated completely from the sac and from the parietal peritonæum, and the contents so reduced within the peritoneal cavity. The first three were thought hardly possible, for the reasons just given, together with the fact that the patient had experienced no tear nor crack such as is usually felt at the time of reduction, when the sac is torn. The last condition could not be excluded from the diagnosis, though it was not thought probable that the subsequent swelling in the iliac fossa could be the result of koprostasis or volvulus in the reduced intestines.

It is well known that the herniæ inguino-properitonealis (Kronlein) and interstitialis (Goyrand) are often congenital, that the sac is bilocular, and that the testicle is either close to the external abdominal ring, or is not felt at all. Of Kronlein's cases, fifteen out of twenty-three were congenital, and nine were complicated with an incomplete descent of the testicle. So striking was this that Trendelenburg ascribed it to abnormities in the development of the processus vaginalis peritonæi. Kocher and Schmidt attributed it to disturbances in the descent of the testicle; Schmidt to a congenital dislocation of the internal abdominal ring, upward and outward, which, he says, explains the narrowness of the external abdominal ring and the retentio testis. He considers a false insertion of the gubernaculum Hunteri, and the formation at this point of the vaginal process, as a cause of the congenital dislocation of the abdominal ring. In consequence of this false insertion, the proper position of the testicle is altered and it does not descend. Hence the narrowness of the external abdominal ring. When strangulation occurs, it involves mostly the ostium abdominale commune, or the opening into the properitoneal sac, the external sac being empty, or the intestines in the inguinal sac are easily replaced without affecting the properitoneal sac.

Kronlein, on the other hand, thinks that certain cases are due to diverticular formations in the neighborhood of the internal abdominal ring, but adds that, though they might be explained in this way, the proof is still wanting, and indorses Streubel's opinion that their explanation is to be put on a mechanical basis—*i. e.*, that where the inguinal sac is first formed, the properitoneal one is produced by a loosening of the neck of the hernial sac from the internal abdominal ring, together with a lateral displacement of the sac behind the abdominal wall and before the peritonæum. This, he adds, is favored by frequent unskillful attempts at reduction, the wearing of badly fitting trusses, and the incomplete descent of the testicle. He thinks that, for those cases with a wide external abdominal ring, a normally placed testicle, a hard, fibrous, and often narrow ostium abdominale, and a neck loosely connected with the surrounding canal, the mechanical origin of Streubel will suffice, and suggests that in future these should be called the hernia inguino-properitonealis. Those due to congenital anomalies, according to his belief, should be denominated hernia diverticuli parieto-inguinalis.

Frequent unskillful attempts at reduction, or poorly fitting trusses, may possibly result in an inguino-properitoneal hernia—*i. e.*, a hernia with a bilocular sac, and not of congenital origin. The difference in the mechanical forces employed, and the loosening of the peritonæum, result in gradual displacement or pushing up of the original neck of the sac in front of the peritonæum, or into the fascia transversalis, or intermuscular space. Thus from a simple sac a double one may be formed, which may be "hour-glass" shaped, or a *Zwergsack*, and the result of a simple inguinal hernia.

Such was thought to be the present case, and the hernia, reduced four days previously, was thought either to have involved both sacs, and to have been reduced in the inguinal sac completely—the properitoneal sac still containing some intestine, but not being strangulated—or both sacs were completely emptied during reduction, and the strangulation (which occurred four days later, while the truss had closed the inguinal sac) was in the properitoneal sac, previously entirely empty, or containing a small amount of intestines not before reduced. The diagnosis was then made as follows: Either a bilocular hernia, with strangulation in a diverticulum from the original sac, or a koprostasis or volvulus in the contents of the sac, which were already partially constricted from adhesions involving the intestines alone, and were so reduced within the peritoneal cavity, or that the intestines were constricted by the neck of the sac, which had been torn away, and were so reduced—an internal strangulation entirely independent of the original hernia.

Two large rectal injections of a saline solution were given, with no result. Laparotomy was then decided upon as the best means of meeting the possibilities of the case. The careful and usual antisepsis was observed; boro-salicylic-acid solution was used throughout. An incision was made in the median line, below the umbilicus, about two inches and a half in length, and the bleeding carefully stopped before opening the peritoneal cavity. Two fingers were passed in, but the nature of the obstruction could not thus be found. The incision was then enlarged to about six inches, and the hæmorrhage stopped. Protecting the intestines with warm cloths wrung out in boro-salicylic solution, they were pulled aside till the obstruction was met. This was found to be in the ileum, and produced by its entrance through a hard, fibrous, and glistening ring, which was raised nearer to the spine of the ilium, and upward and outward from the abdominal wall in front and the peritonæum behind. The epigastric artery was felt on its inner side in its normal position, distant about two finger-breadths. The returning gut was flattened, and the entering one distended. It was found congested, but not otherwise involved, and was only reduced after considerable traction. The amount of intestine reduced was about eighteen inches, in which a small rent occurred, involving, however, only the peritonæum. Afterward a large amount of reddish fluid escaped from the sac, which had to be removed from the peritoneal cavity with sponges. Passing the finger into the cavity, a large space could be easily recognized between the peritonæum posteriorly and the fascia transversalis anteriorly. The sac was closely attached to the peritonæum and the abdominal wall. This was marked for a distance of about four inches about the ring, while toward the spine of the ilium it seemed to be movable in the surrounding parts. It extended above Poupart's ligament and upon the iliac fascia, over a surface about four inches in width by three inches and a half in length. The fingers within the sac, when curved toward the inguinal canal, passed into a portion much narrower than the main sac, and extending to and beyond the external abdominal ring. Its outer circumference, which was resistant and well defined, seemed to have a clearly marked constriction, which was thought to be the edge of the transversalis fascia. This sac contained no fluid, and the cord was found to be to the inner side and behind. Its union with the surrounding tissue was loose. After the escape of the fluid from the first sac, it was found that the ring lay to the outer side of the inguinal canal, and against the abdominal wall. It was left in this position, and the intestines and abdominal cavity were once more examined for the assurance that no fluid remained. The edges of the wound were disinfected, and sutured with silver wire, superficial sutures being made with catgut; occlusive dressing.

August 16th.—The patient rested pretty well. He had one or two attacks of vomiting daily up to August 19th, when he vomited a good deal. The dressing had not required changing. During the day, after a severe attack, he complained so much of pain along the line of the incision that it was thought well to investigate it. The dressing being removed, it was found that the silver sutures had broken and the wound gaped. The edges were again disinfected, and approximated as closely as possible with silk sutures.

22d.—Several movements from the bowels.

23d.—Several loose movements from the bowels.

30th.—A small fistula found in the upper part of the wound from which gas and undigested food, tinged yellowish-green, escaped. It was thought to communicate with the jejunum, and to be in a coil with a broad attachment to the abdominal wall.

September 22d.—Fistula still open.

October 2d.—Fistula closed and patient about the ward.

11th.—Discharged cured.

At no time was the temperature above 101·5° F., the pulse above 107, or the respirations above 24.

The case seems to me to have been one of inguino-properitoneal hernia—a hernia with a bilocular sac and of traumatic origin. The strangulation occurred in the upper sac, the intestines in the inguinal sac having been reduced four days previously, and this in the mean time was closed by the truss. When the intestines entered the ostium abdominale commune, they could not pass to the inguinal sac, but were forced into the peritoneal diverticulum and became strangulated.

My reasons for this conclusion are: The external sac was still present in the inguinal canal, though the hernia had been reduced four days previously. The adhesion of the upper sac to the peritonæum. The condition of fluid in the upper sac, with none in the lower. The want of malposition or malformation in the testicle, or large abdominal ring. The fact that it was not congenital. The frequent and repeated taxis employed. This form of hernia is not, indeed, a common one, and consequently seems well worthy a report.

A CASE OF
NASO-PHARYNGEAL GROWTH.*

By SAMUEL JOHNSTON, M. D.,
BALTIMORE.

THE following case may prove not uninteresting, as illustrative of one of the possible accidents which may happen to embarrass the surgeon during the operation for the removal of naso-pharyngeal growths with the écraseur:

J. W., twelve years of age, a well-grown boy, though of abnormally nervous temperament, came under my care some months since for the treatment of so-called nasal catarrh. His most prominent and distressing symptoms were complete inability to breathe through the right nostril, headache, and a discharge of mucus into his mouth, necessitating the constant clearing of his throat with the peculiar noise characteristic of that effort. His mother stated that "from childhood he had seemed to have something the matter with his nose"; but only since April last, when he had scarlet fever, had his difficulty in breathing through that channel grown more decided. He had never been subject to nasal hæmorrhage, but at times he would expectorate mucus tinged with blood. When I first saw the boy his general health was excellent, and, with the exception of a peculiar intonation of his voice indicative of some obstruction to free nasal respiration, there was nothing to attract notice either in his general appearance or otherwise. Examination of the nasal passages anteriorly showed the absence of the more common impediments to free respiration, and an unobstructed left nasal fossa; but the right one was completely occluded at its posterior extremity, where a fleshy looking growth was visible. Posterior rhinoscopy showed the existence of a tumor nearly filling the naso-pharyngeal space, with its most dependent portion resting upon the velum palati. The portion of the growth visible in the mirror was round in shape, firm to the touch, and pink in color, resembling very closely a fibroma in appearance. The removal of the growth was advised, as offering the only chance for relief. After a short preliminary treatment, instituted to accustom the patient to the use of instruments, and also to diminish the dread that he felt of any surgical interference, I decided to remove the growth with the écraseur. On March 23d, with the kind assistance of Dr. John N. Mackenzie and Dr. H. S. Bowie, after using a spray of a four-per-cent. solution of the hydrochlorate of cocaine as a local anæsthetic, I operated in the following manner: A loop of fine steel wire was first passed through the left nostril, and as it appeared in the pharynx it was seized with a forceps and drawn out through the mouth. Into this loop a stout thread, well waxed, was inserted, and the wire withdrawn through the nostril, leaving the thread in the nasal passage. This precautionary measure was taken, in order that, should hæmorrhage of any magnitude occur during the subsequent steps of the operation, a plug could without delay be quickly inserted into the naso-pharynx. A piece of No. 5 piano-wire, eighteen inches long, was doubled upon itself and passed through the right nostril beyond the growth into the pharynx. The loop was enlarged with the forceps and, with the rhinoscopic mirror in position, was guided over the body of the tumor. Traction now being made on the ends of the wire, the loop was soon lost to sight, and the attachment of the growth surrounded. The écraseur was now threaded with the two projecting ends of the wire, the shaft pressed well down against the tumor, and the screw put in motion. From a quarter to half a turn of the screw was made every few minutes, and when the patient complained of pain, the cocaine spray was again used. Until this time nothing had happened to lead us to imagine any other than the speedy termination of the operation, although the resistance offered to the wire was very considerable. When the tumor, however, had been cut through about two thirds of its extent, as nearly as I could judge, a most embarrassing and unprecedented accident occurred. The shaft of the écraseur broke in two with an audible snap near its contact with the growth. The instrument was at once withdrawn from the nostril, and every effort possible made to recover the remaining fragments of steel, but without success. Another écraseur was adjusted, but the ends of the wire slipped from the binding-screw. Fearing to further complicate the situation, as the patient was becoming very restless, I decided to postpone any further interference or attempt to remove the wire for a few days, hoping that in the mean time the growth would slough off. After waiting for four days without any change in the situation, although the vitality of the growth, both from its appearance in the mirror and from the fœtid taint of the patient's breath, was known to have been destroyed, I concluded to complete the operation with the galvano-cautery; but before using the cautery loop, as there were many uncertainties and difficulties in the way of its successful operation, I reconsidered my first intention, and determined to try once more the écraseur with the original wire. The instrument was attached, half a dozen turns of the screw, without much resistance being offered, bringing the wire through the growth. Shortly after, the broken fragment of the écraseur came out through the mouth; it measured eighteen millimetres in length and about two millimetres in diameter at the point of fracture. An effort was now made to remove the tumor, but from some cause or another it was too firmly fixed in its position to be dislodged. Six hours after, however, it became loose, and was easily withdrawn with the forceps through the mouth. The tumor measured an inch and a half through its long axis, and an inch across its thickest portion. Its base measured half an inch.

During the operation only enough blood to stain a few small napkins was lost. Examination of the naso-pharynx showed the growth to have had its attachment to the vomer and the body of the sphenoid bone, where the stump of the growth was still to be seen. The following is the report of Dr. Councilman, who examined the growth for me microscopically:

JOHNS HOPKINS HOSPITAL, BALTIMORE, *April 8, 1886.*

DEAR DOCTOR: I made sections across the thick part of the growth, and longitudinally along the thinner portion. The tissue is that of a most typical fibroma. In the larger portion the vessels are small, and in many cases apparently in process of obliteration. In the smaller there are numerous large venous trunks (sinuses?), with the fibrous growth between and compressing them. Very truly yours,

W. T. COUNCILMAN, M. D.

The subsequent treatment of the case consisted in the use of cleansing lotions to the nostrils and the application of the galvano-cautery to the stump of the growth. Some days since, when I saw the patient, he was breathing with perfect comfort through both nasal fossæ, and seemed strong and well. The site of the growth was, however, still noticeable upon rhinoscopic examination.

Dr. Lincoln, in two papers read before this association ("Transactions of the American Laryngological Association," 1879, pp. 247–253; *ibid.*, 1883, pp. 86–112), has graphically described the treatment of naso-pharyngeal fibromata with the galvano-cautery loop, and I do not here propose to enter into the discussion of the respective merits of the two methods of treatment. But, as the galvano-cautery may not always be available, I wish to add this contribution to the list of cases illustrating the successful removal of naso-pharyngeal fibromata with the écraseur, and also to record an accident which, so far as I know, is unique.

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* Read before the American Laryngological Association at its eighth annual congress.

PLEURISY.*

By STEPHEN SMITH BURT, M. D.,

PROFESSOR OF PHYSICAL DIAGNOSIS.

Your attention is asked this evening to the subject of pleurisy, which to me is of peculiar interest in that it best exemplifies the efficacy of physical diagnosis. I shall dwell but a moment upon the morbid anatomy, and then pass to a consideration of the diagnosis and treatment of this malady, for an inflammation of the pleura does not essentially differ from that affecting other serous membranes. The products of this inflammation are fibrin, serum, and pus. In one instance it will be fibrin, in another fibrin with serum, and in still another fibrin, serum, and pus. And, in addition, it results in the formation of new connective tissue with adhesions, or, at least, thickening of the pleura.

Now, although this disease was not unknown to the physicians of ancient Greece, it has been rather more intelligently described by medical men of modern times. But however interesting it might be to give the different views formerly held of pleuritis, and to enlarge upon the light which the present century has thrown upon its real nature, I mean to refrain from an historical dissertation and confine myself to what more immediately concerns us. Still, in passing, let me recall to you the fact that until the perfection of physical exploration, which marks the dawn from the dark middle ages of medicine, there was no certainty in the diagnosis of pleurisy.

The cause of this disease is not always patent, yet it is unquestionably sometimes due to simple exposure to cold; for the clinical experience of many, besides my own, attests to such an origin. However, not infrequently, cold as an excitant can be traced to some predisposing cause, as, for instance, disease of the kidneys or chronic alcoholism. Pleuritis complicates, among other affections, rheumatism, pneumonia, pyæmia, peritonitis, phthisis, and the eruptive fevers. In peritonitis the inflammation is thought to be conveyed from the abdomen to the pleural cavity by means of the lymphatics. And it certainly often extends directly from adjacent structures. Moreover, it may be lighted up by an injury to the chest-wall, and especially when the ribs are fractured. One attack favors another, and no age is wholly exempt from the disease.

As a rule, the inflammations of the pleura are confined to one side of the chest; and if there is an exudation of fibrin alone, the lesion is commonly circumscribed, while the disease is known as dry pleurisy. This form, when mild, is often fleeting; nevertheless it leaves behind more or less thickening and adhesions of new connective tissue, which may have an important bearing upon the future history of the pleural cavity. For example, an effusion may be confined by these adhesions to the uppermost, instead of gravitating in the customary manner to the lowermost part of the chest. Some attacks are very severe, and are attended now and then by a slight pouring out of serum; still, such are usually included under the head of acute pleurisy.

When the exudation of fibrin is extensive and followed by a large effusion of serum, the disease is called subacute pleurisy; and, though frequently found in but one, yet it may possibly occur in both sides. By far the greater number of pleuritic inflammations take this subacute form.

But when the exudation of fibrin is followed by, or associated with, an effusion of serum and pus, then the disease is termed empyema. This pus may exist from the commencement, or the serum may change to pus. Hence we have three phases of the inflammation to consider, namely: acute pleurisy, subacute pleurisy, and empyema.

First let us look at the subjective signs, for while these are not so valuable as the objective signs, still it would be a most serious error to ignore their assistance. The chief symptoms are pain, dyspnœa, cough, rapid pulse, and fever. And foremost among them is pain in all degrees of severity.

An acute attack may be ushered in by chilliness, and a sharp, tearing pain, which is commonly referred to the lower part of the affected side, where there is greatest pulmonary mobility. The patient is found doubled over toward that side, which he grasps to stay the movement of the ribs, and thus lessen his suffering. He breathes with difficulty in a jerky, catching, rapid manner, and superficially, for a deep breath fills out the lung and thereby intensifies his pain. Moreover, from a like motive he makes every effort to suppress his cough, which, if present, is short, dry, and extremely painful. His temperature will not often exceed 102° F. in the axilla, and there will be a small, wiry, rapid pulse.

In subacute pleurisy there may be a similar invasion, but soon the fluid separates the parietal from the pulmonary pleura and the pain subsides. More often, however, the pain is slight, the dyspnœa noticable only on exertion, and the cough is either dry, or attended by an inconsiderable muco-purulent expectoration. The patient has a feeling of general discomfort, he loses flesh and strength, and yet there are no very definite symptoms suggestive of pleurisy. At the same time that his pulse is weak and rapid there may be little if any fever. But, notwithstanding the paucity of symptomatic indications, there is one result of an effusion, when large, that seldom fails to arouse my suspicions, and this is the peculiarity of the voice. It always reminds me of the somewhat interrupted manner in which the tones issue from the mouth of a bather while deep in the water. In regard to the position of the patient, if he is in bed—where, however, you are not likely to find him—he lies more comfortably upon the affected side, as then there is room for a free play of the other lung. Of course, at the two extremes of acute and of subacute pleurisy the symptoms differ widely in their intensity, but it is scarcely necessary to more than allude to this.

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* Read before the Clinical Society of the New York Post-graduate Medical School and Hospital, February 19, 1887.

The symptoms of empyema do not essentially vary, save in degree, from those of pleurisy without the effusion of pus, and, too, there is nothing even in the physical exploration to show that pus, instead of serum, fills the pleural cavity. With hectic fever, and possibly a typhoid state, resulting in greater prostration, more loss of flesh, and, withal, less pain, we may reasonably suspect the existence of empyema. Moreover, œdema is now and then found in the chest-wall of the affected side, yet, in my experience, it has been oftener absent than present.

In reality, the diagnosis of pleurisy depends upon the physical signs, and the only certainty as to the nature of an effusion is the withdrawal of a specimen for inspection. It is with this conviction that I hasten to the investigation of the physical phenomena of the disease; and, as the signs of a collection of serum embrace those of purulent effusion, I shall speak of fibrinous exudation, of fluid effusion, and finally of absorption.

Let me ask your indulgence for a moment, that I may picture to you the respiratory action of the normal chest, as an introduction to the description of what takes place in pleurisy. When we observe the respirations of a healthy person, who breathes quietly, there is seen first an expansion of the lower part of the chest, elevation of the upper portion, and protrusion of the abdomen, which comprise inspiration. Following this comes a return of the chest-wall to its former position, together with a subsidence of the abdomen, which constitute the act of expiration. This occurs about eighteen times a minute. Furthermore, if we place a hand upon his chest and cause him to speak, we feel the vibrations of his voice, or fremitus. Then, at the same time, with the ear upon the chest we hear vocal resonance, and, when he ceases to speak, the soft, breezy incoming and outgoing breath. Lastly, percuss his chest, and wherever the lung is, there will be pulmonary resonance, but with a pitch that varies with the overlying tissue, and with the organs that are beneath. Now, these signs are all more or less modified by the products of the inflammation, and upon this alteration we are to base our diagnosis.

The signs of acute pleurisy that are seen upon inspection are mainly those caused by the all-absorbing pain; and, as I have already said, the patient breathes as little as possible with the affected lung, and consequently the respiratory action of that side is considerably restricted.

With the advance of the disease a friction vibration may be perceptible on palpation, while, at the same time, the vocal fremitus decreases.

An irregular range of temperature is shown by the thermometer, that rarely exceeds 103° F., seldom reaches 101° F., and often falls short of the fever mark.

On percussion, the resonance rises in pitch with the exudation of fibrin to well-defined dullness where there is very much plastic material.

On auscultation, the respiratory murmur is both weak in intensity and jerky in rhythm, but the most prominent sign that forces itself upon the ear is one of the various forms of friction; and, while this friction may accompany either the first or second, or each respiratory act, it is more often noticeable with inspiration and at the lower part of the chest, where the excursion of the lung is most extensive. Moreover, for just that reason, friction now and then escapes observation, as the sufferer seeks to control the movements of the lung in order to keep the pleural surfaces apart. Hence, if the suspected friction is inaudible, it is a good plan to ask the patient to take a deep breath or to cough, which last will be followed of necessity by the desired inspiration.

To distinguish acute pleurisy from the first stage of pneumonia, we keep in mind the low range of temperature of the former as compared with the high range of the latter, the friction of pleurisy instead of the crepitant râle of pneumonia, and the characteristic sputa of the last-named in place of no expectoration in the first-named affection.

There are two conditions that closely simulate dry pleurisy—namely, neuralgia of the intercostal nerves, and rheumatism of the intercostal muscles. In neuralgia there are some painful points along the course of the nerve, while in rheumatism there is wide-spread tenderness. Moreover, pressure aggravates the tenderness of the one, and alleviates the pain of the other, whereas in pleurisy both superficial pain and tenderness are less common and less affected by external pressure. Furthermore, though fever may be associated with neuralgia and with pleurodynia, yet it oftener accompanies inflammation of the pleura. And, above all, friction appears in pleurisy, while it is never heard as a result of intercostal neuralgia nor of rheumatism.

As fluid collects in the chest, the opposing surfaces of the pleura are gradually separated; and, if the effusion is sufficiently extensive, friction disappears, to return, however, with the reabsorption of the liquid. Consequently, with these altered conditions there is a corresponding change in the physical manifestations. Our attention is drawn, on inspection, not only to the lack of motion upon the affected side, but also, if the effusion is abundant, to the enlargement of that side, and at the same time to the increased respiratory play of the unaffected portion of the chest. But this alteration in the size of the chest is not so common in adults as in children, for the elasticity of the thorax diminishes with advancing years. While the breathing is somewhat increased in frequency by an effusion, it is neither the panting seen in pneumonia, nor the dyspnœa that attends acute pleurisy. In fact, the patient is usually not conscious of much difficulty with the breath, except upon exertion. By closer inspection we may find that the intercostal spaces bulge, or at least remain stationary, with inspiration. Where a large effusion occupies the right pleural cavity, the heart is displaced to the left, and, contrariwise, the organ is pushed to the right by an effusion in the left pleural cavity.

But the position of the cardiac impulse is best determined by the hand, and by palpation, too, we find that the frequency of the respiration varies from twenty to thirty a minute. Moreover, the vibrations of the voice, known as vocal fremitus, disappear over the region of the effusion, and, on the other hand, are sometimes exaggerated above the fluid, over the compressed lung. This absence of fremitus where there is fluid is a very constant rule to which there are but few exceptions.

Now, though upon forced expiration the semi-circumference of the affected side often measures from half an inch to two and even three inches more than the other, yet quite an amount of fluid may gather at the expense of the viscera without perceptible enlargement of the thorax.

If there is fever, which is frequently not the case, the temperature ranges between 100° and 102° F., and possibly a little higher.

There is flatness on percussion from below up as far as the fluid extends, but the change in the level of flatness by altering the patient's position, so commonly referred to, is, in my opinion, at least with pleuritis, rather problematical. The line of flatness takes something of a curve, with its lowest point near the spinal column and its highest in the axillary line, whence it descends toward the sternum. Still, adhesions modify that line, and large effusions quite obliterate the curve. In addition to the flat sound there is a sense of resistance communicated to the hand, in percussing, which is very significant of the presence of fluid. As we pass from the effusion to the compressed lung, the flatness changes to dullness; and this transition is best appreciated by causing the patient to take several deep inspirations. But in some few instances the resonance is vesiculo-tympanitic, instead of dull over the displaced lung, and the unaffected side is thereby rendered dull by comparison. Now, this vesiculo-tympanitic resonance, which occurs above an effusion, is thought by some writers to depend upon dilatation of the air cells from a permanent expansion of the chest. It seems to me, however, that by a certain pressure of fluid, just short of producing collapse, the volume of the lung is contracted so that the air of the bronchi, surrounded by this partly apneumatized lung, gives a sound on percussion that results in a modified tympanitic, or, in other words, vesiculo-tympanitic resonance. And when the pressure passes beyond the limit, the air vesicles, and possibly the bronchi, collapse, and then well-marked dullness is developed.

The auscultatory signs of an effusion depend upon the acoustic law that "sound-waves are transferred from air to liquids, or to solid bodies, with great difficulty." In consequence of this, the respiratory murmur is either inaudible or, at most, very faintly heard through the fluid; and the sound, if perceptible, is that of muffled bronchial rather than vesicular respiration. This is best appreciated by listening to both sides of the chest. Indeed, comparison is very essential in all methods of physical exploration. With children, bronchial breathing is heard through fluid somewhat more clearly than with grown persons. And, too, there are instances, even in adults, where bronchial respiration can be distinctly heard, but this does not invalidate the rule, for the lung under these circumstances is pressed toward the back, and there bound by adhesions. When this is the case, let the examiner carry his ear in the direction of the axillary line, and the sound almost invariably decreases, and becomes finally lost upon reaching that locality. I find the axillary line a most important point in which to percuss, as well as listen, in many thoracic diseases. Vocal resonance, though absent below the level of the fluid in a number of instances, is yet not infrequently present—and present, too, where vocal fremitus is suppressed. Furthermore, at or near the level of the effusion, a bleating sound, known as ægophony, is now and then audible, while above the fluid in the compressed lung there is either broncho-vesicular, bronchial, or else, possibly, cavernous respiration. And upon the unaffected side there may be, owing to the vicarious breathing, what is called puerile respiration.

We have to decide between a collection of fluid caused by pleuritis, and one the result of a passive effusion.

In the first place, the history and symptoms are different. There is no pain attending the latter, and it is commonly associated with dropsy in other parts of the body. The hydrothorax, which is the name given to this condition, has for its remote cause an organic lesion of the heart or the kidneys. And, as a rule, it is bilateral, whereas it is the exception for pleurisy to occur in both sides.

A passive effusion is not preceded by friction, and, moreover, fever is always absent. Lastly, the fluid of hydrothorax more easily changes its position with the movements of the patient than that of pleurisy, and thereby alters the level of flatness.

To distinguish an effusion of pleurisy from the solidification of pneumonia, we must likewise consider the history and symptoms as well as the physical signs.

The invasion of pneumonia is signalized by a decided rigor; that of pleurisy by chilliness without much shivering. Pain may or may not be prominent in both affections. An effusion usually gravitates to the lower part of the chest; consolidation may take place at any point in the lung.

In pleurisy there is immobility of the affected side, with expansion; in pneumonia there is some immobility, but no expansion.

The sputa of the last-named are characteristic; those of the first-named affection are not.

Fremitus is absent in pleurisy, while in pneumonia it is exaggerated.

The respirations are from forty to eighty in the one, and from twenty to thirty a minute in the other.

The half circumference is increased by an effusion, and not modified by consolidation.

The temperature ranges from 100° to 103° F. in pleurisy, while in pneumonia it commonly lies between 102° and 105° F.

Where there is fluid there is flatness; hepatization gives dullness.

Upon auscultation, we find that vocal resonance and the vesicular murmur are absent in pleurisy, but in pneumonia we hear both bronchial breathing and bronchophony.

Now, as the fluid recedes, the fremitus gradually returns, flatness disappears from above downward to the lower part of the chest, and vesicular respiration, of diminished intensity, is again heard. But with this comes a return of the friction, which in time may cease; still, in many instances, it lasts for years. And at the lower part of the chest, because of the thickened pleura, flatness may continue for an indefinite period. As a rule, contraction of the chest does not follow acute pleurisy, but it frequently succeeds the subacute form, and then, as shown by mensuration, there is a decrease in the semi-circumference of the affected side, toward which the heart is now drawn.

With the absorption of a sero-purulent effusion there may be an adhesion of the costal and pulmonary pleura, and attachments may likewise follow a plastic exudation, or form in the very commencement of the disease. The physical signs of this condition can be given in a few words. We find considerable restriction of the respiratory play of the affected side; the half circumference is diminished; the heart is drawn toward the contraction; vocal fremitus is either decreased or absent; and there is dullness or flatness in proportion to the amount of new connective tissue. The respiratory murmur is suppressed, or at least feeble, while here and there friction-sounds remain audible.

Thus I have endeavored to recount to you, in as brief a manner as possible consistent, let me trust, with clearness, the means which I have found most serviceable in the diagnosis of pleurisy. But before closing I must beg your further attention to the treatment of this malady, for the management of pleurisy is of very considerable importance. I do not propose to give a review of treatment in general, but rather to state what has seemed to me of most advantage, with the hope that those who are interested in the subject will follow with contributions from their own experience.

In acute pleurisy, of severe form, rest and absolute quiet are essential; and for the relief of suffering I have found nothing so efficacious as the subcutaneous injection of morphine and atropine at the seat of pain. The dose and the frequency of administration are to be regulated by the peculiarities of the individual and the requirements of each special case. There is an advantage to be gained by inserting the medicine near the locality of the pain; and somewhat larger doses of morphine can be given during acute suffering than at other times. The following solution—

℞ Morphinæ sulphatis..............	gr. xvj;
Atropinæ......................	gr. ss.;
Acidi salicylici..................	gr. ss.;
Aquæ puræ...............	q. s. ad ℥ j.

M. Sig.: for hypodermic use—

is less likely to produce nausea and vomiting than any that I have tried, and, moreover, an abscess has never followed its employment, even when kept for a very long time. With less severe attacks of pleuritis, dry cupping is often sufficient for the relief of pain. But the cups must be thoroughly applied; and, as they are usually too small, an ordinary tumbler is, in my opinion, preferable. Binding the chest with strips of plaster helps to restrict the mobility of the ribs, and thereby controls, in some degree, the distress occasioned by their action. Throughout the course of the disease the patient should remain in a well-ventilated room, free from draughts, and live upon nourishing food, without alcoholic stimulants, unless some particular reason demands their administration.

The pain of subacute pleuritis soon becomes extinguished in the progress of the disease; and prior to this the remedies for acute pleurisy find an application here as well.

Upon the advent of an effusion we have to shape our treatment with the view of a removal of the fluid. But it has always seemed to me, if you will pardon the slight digression, that many physicians, in their eagerness to accomplish something, now and then lose sight of the ulterior effect of medicine in their desire for immediate results; for instance, the sweating and purging, to say nothing of bleeding, that have their advocates in the treatment of pleurisy, and the present rather intemperate employment of antipyretics, too often regardless of the consequences of the remedy, if the fever can only be lowered from its ofttimes innocent elevation. As I have elsewhere remarked, the thermometer has its uses, and they are not to be underestimated, yet, at the same time, the inferences drawn from the employment of the instrument are not infrequently unwarrantable.

Therefore, if the fluid does not encroach upon the viscera to an alarming extent, I place the patient in bed, see that the room is comfortably warm but well ventilated, order a nourishing dietary, charge the invalid to abstain as much as possible from all fluids, and allow a week or ten days to go by. The dry diet, where it can be enforced, is of undoubted value, for the problem before us is to remove more fluid from the body than is at the same time taken into the system. Daily physical exploration will tell a practiced examiner the course pursued by the effusion; and he must be prepared for active measures should the fluid rapidly increase. Meantime, the unwonted rest of the patient will require attention to his stomach and bowels; and, moreover, the chances are that his general condition is not good. Consequently, cod-liver oil, if well borne, is of service; teaspoonful doses after meals, which, by the way, are more easily assimilated on the addition each time of two or three drops of ether. In connection with this comes syrup of the iodide of iron, in like amount, and perhaps mild alcoholic stimulation. Furthermore, though aware that some question the potency of the following mixture, yet I am inclined to believe it a promoter of absorption, viz.:

℞ Potassii acetatis.................	gr. x;
Infus. digitalis..................	ʒ ij;
Aquæ puræ..............	q. s. ad ℥ ss.

M. S.: Every four hours.

For any collateral pulmonary œdema, dry cups must be extensively applied.

When ten days have elapsed, and the fluid has given no sign of recession, it had better be withdrawn without further delay. The longer it remains, the less easily will the lung resume its former position. My experience, which has been wide in this direction, leads me to an unqualified approval of the procedure. Unfortunately, I have no written record of the numerous cases of operation by me in a long service at the Out-door Department of Bellevue Hospital; but favorable results followed in every instance where the fluid was not purulent. The only accident that ever complicated an operation of mine was the loss of a broken needle in the chest of a patient who died of empyema at the Roosevelt Hospital while I was the resident physician. And in this case there was no real harm done, for the autopsy revealed the needle imbedded in a mass of fibrin and pus at the bottom of the pleural cavity, where it had not in the least affected the unfortunate termination of the disease. But, nevertheless, such an accident should not occur, for it might work an injury to the patient. Inasmuch as the intercostal spaces were exceedingly narrow, and the insertion of the needle happened to produce a forcible cough, the instrument was snapped off by the convulsive action of the two closely approximated ribs. Since then I have made it a rule to administer an opiate before the operation, to lessen the liability of exciting a cough, and have almost invariably applied a bandage to the chest that would control the action of the ribs, in anticipation of such an event. A good position for the patient during this operation is to sit sideways upon a chair, and a convenient attitude for the operator is kneeling upon the floor. The place where the needle should be introduced is either the fifth, sixth, or seventh intercostal space, just to the outer side of the scapular line. Let the operator firmly press his thumb into the space selected for a moment, and then insert the needle where he has made the depression. The entrance should be effected nearer the lower than the upper part of the intercostal space, and the instrument thrust not deeper than one inch—to escape the intercostal vessels in the first, and to avoid reaching the lung, or possibly the diaphragm, in the second instance. If the needle is pushed through the fluid into the lung, not only is that organ wounded, but the object of the procedure defeated.

For thoracentesis I employ a Potain aspirator, and use one of the smaller needles with a sharp point; but, in consideration of a possible injury to the lung, would recommend a small trocar and cannula, made to fit the aspirator. There is no danger of admitting air, for the pressure, which is first in the opposite direction, is kept there by the exhaust pump. The needle, however, should be thoroughly cleansed in a solution of carbolic acid immediately before it is used.

Instances of sudden death have been reported after drawing a large quantity of the effusion at a time. But, unless the serum has occupied the pleural sac for a long period, I generally take out all that will come. The slowness of the operation is usually a safeguard to the patient. Still, urgent dyspnœa and faintness are at all times imperative indications to bring thoracentesis to an end. In my opinion there is greater danger from the presence of an extensive effusion than from its immediate withdrawal, and this is especially the case if the fluid is in the left pleural cavity, for the inferior vena cava may be so compressed as to imperil the blood-supply of the heart.

Repeated operations are very trying to the patient, yet the annoyance is not to be considered where there is really danger from one large evacuation. The taking even of a small part of the fluid favors absorption of the remainder. I have never been deterred from operating by the presence of fever, and, what is more, the high temperature will often disappear with the fluid.

Now, when the contents of the pleural cavity are purulent, there should be no delay about thoracentesis. But, as empyema is not unlikely to have existed for a long time, it is somewhat less safe to complete the operation at one sitting. If the pus is allowed to remain, there is always danger of its making an exit for itself; yet, if this takes place through the chest-wall, it is the best that can happen under the circumstances, for with children, at least, there is still a fair prospect of recovery.

My experience teaches me that we should not be too hasty in making an opening into the pleural sac. It is preferable to allow two, and perhaps three, chances for recovery by aspiration before drainage is established, unless the general symptoms are urgent. An adult patient that was treated at my clinic for empyema returned a year after the last of four operations, the last two of which I performed, and he had practically recovered from the disease. When it becomes necessary to cut into the chest, a strict observance of the antiseptic method should be kept. A soft rubber tube or catheter can be introduced, and the cavity washed out with a very dilute solution of hydrogen peroxide. Finally, a permanent drainage can be carried on through a notched tube, held in place by a safety-pin, and led into the bichloride gauze, and the boric cotton used for a dressing.

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LETTER FROM PARIS.

The Treatment of Phthisis with Hypodermic Injections of Eucalyptol.—The Treatment of Morphinomania.—Lithinated Arsenical Water in the Treatment of Diabetes.—Hypodermic Injections of Calomel in Syphilis.—Liquid Vaseline.—Grindelia Robusta in the Treatment of Whooping-cough.—Professor Verneuil's Treatment of Hæmorrhoids.—The Treatment of Laryngeal Phthisis.—The Secularization of the Hospitals.

Paris, *April 1, 1887.*

Professor Ball, the well-known alienist of the Asile Ste.-Anne, has also a general hospital service, and he has recently made a communication to the Academy of Medicine on the treatment of pulmonary phthisis with hypodermic injections of eucalyptol. He said that he had undertaken the investigation at the request of Dr. Roussel, of Geneva, and that twenty-one patients had been submitted to this form of medication, six of whom were now dead, ten had been somewhat improved and had left the hospital, and five were still under treatment. One of the latter had formerly had the *Bacillus tuberculosis* in his sputum, but had none at present. It might be said in a general way that the treatment seemed to act against the septic matter in phthisis, and that it caused cessation of the night-sweats, with diminution of the diarrhœa and expectoration. The fever was abated also. These were the principal phenomena that marked the amelioration. In one case only had it been found necessary to stop the medication on account of gastric disturbance. The eucalyptol was dissolved in double its volume of olive-oil, and a quarter of a drachm of the mixture was injected into the skin about the region of the mouth. Several of the hospital physicians are trying the method at present, but for the most part they throw the injections into the thigh. Dr. Dujardin-Beaumetz's trials of the method have not been so successful as Dr. Ball's, but he recognizes that it diminishes and modifies the expectoration, although he thinks that it increases the dyspnœa and causes loss of appetite.

Professor Ball subsequently spoke of the treatment of morphinomania, and called attention to the fact that the prominent symptoms seen when the patients were deprived of the drug were troubles of the heart, so that the problem was to discontinue its use and at the same time increase the activity of the circulation. Alcohol, coffee, cocaine, chloral, etc., were for the most part not only useless but hurtful. The speaker advised cardiac tonics, giving the preference to sulphate of sparteine, in hypodermic injections, whenever there was heart failure; in a few minutes the pulse would rise, and the faintness and feeling of illness would pass away. In slight cases he advised a few drops of nitro-glycerin to be placed on the tongue, which would give rapid relief, but left rather a persistent headache.

There has been considerable talk of late about a new way of treating diabetes, proposed by Dr. Martineau, one of the physicians to the Lourcine, of which Dujardin-Beaumetz has said: "If the future confirms its success, it is a marvelous event in therapeutics." M. Martineau says that he has used it for the last twelve years, curing sixty-seven out of seventy patients. The method, which was suggested to him by M. Rouget, is simply this: Put into the upper part of an artificial seltzer-water apparatus (such as Briett's), of about a quart in capacity, filled with water: 1. About three grains of carbonate of lithine. 2. A teaspoonful of a solution of three grains of arsenite of sodium in a pint of distilled water. This lithinated arsenical water is to be drank, mixed with wine, with the meals, and the quart should last for three meals. No other special treatment is to be followed, except that fruits, sugar, etc., are, as usual, not to be taken in any quantity. It is well known that certain natural arsenical waters, such as those of Bourboule and Royat, have a favorable action in diabetes, and it is certain that M. Martineau is one of our trustworthy physicians, so that the treatment may be tried.

The treatment of syphilis with injections of calomel is now all the rage in Paris. It was proposed some twenty-three years ago by Scarenzio, of Pavia, whose idea was that the salt would be changed into the bichloride in the blood, in quantities large enough to prove curative, but not large enough to be toxic. But the method was abandoned, on account of the abscesses that were produced, until Smirnoff took it up again, about five years ago. It made no progress in France, however, until lately, when Dr. Balzer and others used it in their syphilitic services. We have seen it used in Professor Panas's ophthalmic clinic also, when the syphilitic taint was detected. A quarter of a drachm of a mixture of one part of calomel and twelve parts of vaseline oil is employed at a dose, being slowly injected into the gluteal muscles by means of a hypodermic syringe with a very long needle which has been dipped into carbolized oil, the skin being held tight about the cannula. One half the dose is injected on one side, and the other half on the other. The patient is in the standing posture, and, when the needle is withdrawn, a piece of Vigo's plaster is placed over the puncture. M. Balzer prefers a locality about an inch behind the trochanter major. He professes to have treated fifty-one patients by this method, ten of whom were cured with three injections, while in most of the others all the symptoms disappeared after one or two injections. Out of eighty injections, only three were followed by the formation of abscesses—all in fat persons. The yellow oxide of mercury may be substituted for the calomel.

The fact that various irritating substances, such as iodine, bromine, creasote, etc., can be used hypodermically by the employment of the antiseptic substance now spoken of as liquid vaseline is causing all sorts of such experiments to be made, so that you may expect to see reports of plenty of injections. Dujardin-Beaumetz gives Balzer the credit of having made known this vaseline, which, he says, is improperly called vaseline oil—but I fancy that vaseline oil is not new to the United States.

At the last meeting of the *Société de thérapeutique*, M. Bilhaut read a paper on the use of an American medicine, *Grindelia robusta*, in the treatment of whooping-cough. He stated that it arrested the vomiting, made the expectoration less viscid, and then caused a diminution in the intensity and the frequency of the attacks of coughing. It was found palliative in some cases, but really curative in others.

Professor Verneuil has again spoken of his treatment of hæmorrhoids by dilatation with the speculum, which is now much practiced here. He professes to have cured ninety-eight cases in a hundred. In a certain number of cases the cure takes place by the piles remaining outside, when slight inflammation follows, after which they soon become atrophied and cured. In other instances they remain within the rectum, but come down whenever the patient walks, although there is no pain after the first two or three days, and a complete cure generally occurs in from two to five weeks.

Those who are interested in laryngology will be glad to know that Dr. Gouguenheim has left the Bichat, and now has charge of the most important laryngeal service in France, that of the Lariboisière. In a recent article of his he says that laryngeal phthisis is quite susceptible of amelioration, and even of cure. Without discussing the general treatment, he advises that, in cases of pain and dysphagia, the painful spot be touched with solutions of cocaine varying from four to twenty per cent. It must be applied to the precise seat of pain, with the aid of the laryngoscope. When the pain is gone, the tubercular ulcerations should be treated with lactic acid and iodoform. The latter may be thrown on to the part with a powder-blower, but the author prefers to use a *porte-éponge*, the sponge having been dipped into water and then into powdered iodoform. Iodol also is being tried in his service. The lactic acid is used in solutions of fifty and of eighty per cent., the second being employed after the first has been applied for some time. The application is made in the same way as that of iodoform, the sponge or cotton on the holders being changed every time.

You have probably noticed the gradual process of secularization (*laicisation*) of the Paris hospitals. In spite of the opposition of the physicians, the Municipal Council has been discharging the nuns who act as nurses, and putting in lay nurses. This has had the effect of causing a large falling off of the voluntary subscriptions to the funds of the hospitals by the rich and religious classes, and, besides this, the lay nurses have to be paid, while the Sisters often acted gratuitously. To meet the consequent deficiency, the model Red Republican Council of law-makers proposed at a late meeting to re-establish the custom of having one fast day a week in the hospitals. The worthy citizens of the Council quite approved of this on economical principles, but absolutely objected to Friday being set apart as the day of fasting, as that might be construed as a religious demonstration; so, on vote, Tuesday was selected. This amuses the doctors immensely, and perhaps will not be very hard on the patients, as Tuesday comes so soon after Sunday, when their friends often bring them little supplies of food.

Precautions against Errors in Dispensing.—The "Tribune" lately published an appreciative notice of the long and honorable career of one of the most esteemed pharmaceutical firms in New York, and appropriately alluded to its system of checks and revision in the dispensing department, by means of which almost absolute protection against error is secured. The house is that of Hazard, Hazard, & Co. (until lately styled Caswell, Hazard, & Co.), whose establishments at Broadway and Twenty-fourth Street, at Sixth Avenue and Thirty-ninth Street, and at Newport, R. I., are widely known to the profession, the business having been established in the year 1780, and now, as for many years past, comprehending that of the apothecary, the manufacturing pharmacist, and the surgical-instrument maker, in all of which the house has achieved an honorable reputation.

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DR. EMMET ON PELVIC INFLAMMATIONS.

The eleventh volume of the "Transactions of the American Gynæcological Society," recently issued, contains a number of notable papers, one of the most interesting of which, chiefly because it deals with matters of every-day observation, is Dr. Thomas Addis Emmet's, entitled "Pelvic Inflammations; or, Cellulitis *versus* Peritonitis." Several years ago we ventured the statement that much of what was most urgently needed to be done in gynæcology would be found to partake largely of the nature of reconsideration, and it is in this spirit that Dr. Emmet has evidently undertaken the study on which his paper is founded. Among the questions with which he deals is that of the frequency of the occurrence of the minor degrees of inflammation of the serous and connective-tissue structures of the pelvis —those, that is to say, which are not so extensive or so obvious as to be in no danger of being overlooked, but sufficient to embarrass the pelvic circulation and to interfere with the natural mobility of the organs contained within the pelvis. He gives credit to Dr. Henry C. Coe for having drawn attention to the subject, in a paper which we published in our issue for May 15, 1886, entitled "The Exaggerated Importance of Minor Pelvic Inflammations," read before a meeting of the Alumni Association of the Woman's Hospital. He makes the criticism, however, that that writer went too far in assuming that cellulitis had not previously existed to the extent maintained by others. He explains that he and many others in this country have used the term pelvic cellulitis as a convenient generic name for various conditions of inflammatory origin. This explanation will go far, we think, toward reconciling the conflicting views that have been expressed, especially when coupled with Dr. Emmet's statement that cellulitis proper, unless accompanied with septic complications, is very apt to end in resolution, and that it is rather the localized forms of pelvic peritonitis that are most likely to give rise to further trouble. This being said, we think that nothing has thus far been put on record that is calculated to lessen our confidence in what Dr. Emmet has taught for many years past. With a candor and an openness to conviction that are quite unusual he has, as it were, revised the observation of a life-time; and he has found so little to modify in his previous expressions that his views seem to us to be confirmed rather than weakened. That such should be the case speaks quite as much for his past cautiousness as for his present frankness, and his teachings may now be considered to have stood the test of the reconsideration that we spoke of at the outset.

Incidentally, the author touches upon the subject of the operation of removing the uterine appendages, and what he has to say in this connection will, we are sure, command respect among the profession everywhere. While he admits that he has occasionally mistaken an enlarged oviduct for an inflammatory deposit, and that in a certain number of instances in which he has acceded to the operation known as Tait's the result has seemed to justify its performance, he records it as his belief that it should be done only as a last resort, after every other means has failed, and says that in his private hospital practice he has succeeded in restoring to health a number of women upon whom it had been urged before they came under his care, and upon whom it would have been performed had they been in some other hands. Although he has signally failed in some instances, it is a remarkable fact, he adds, that, where he has refused to operate, and the patients have passed into the hands of others for the purpose of having the operation done, a large proportion of them have died, and he can scarcely recall a single instance in which the result has been entirely satisfactory. The average amount of benefit derived from it, he thinks, is not enough to compensate for the average danger to life. He concludes as follows: "But I believe that the operation is practiced too often, even by those who have the smallest death-rate, and I predict that five years will not pass before it will be necessary to offer an apology when its performance is suggested. The operation doubtless fills an important place in gynæcological surgery. But its usefulness must be more clearly defined and its practice greatly restricted, or the good name of the profession will surely suffer in the future."

THE ÆTIOLOGY OF TETANUS.

From time to time we have acquainted our readers with the main facts and deductions on which M. Larger and Professor Verneuil have relied in support of their theory of the contagiousness of tetanus, and those to which the latter has appealed in illustration of his idea of the equine origin of the disease. In a recent number of the "Gazette hebdomadaire de médecine et de chirurgie," M. Verneuil presents an array of testimony that is perhaps more striking than anything that he has brought forward before. He first quotes from Dr. Larger's account of a circumscribed epidemic in the hospital of Colmar, in 1882. In the month of January three cases occurred in three adjoining beds, and a fourth case occurred in 1886 in the bed that had been occupied by the first victim four years before. In the second case only was there any reason for suspecting cold as a cause, and no cases occurred outside the hospital, among the urban population, in either year. None of the victims had been accustomed to handle horses, and in all the cases the wounds were treated with phenic acid. No special means were taken to disinfect the hospital, but it had had a coat of glue, which, Verneuil asserts, is specially favorable to the growth of microbes.

The most striking portion of M. Verneuil's new evidence is the experience of M. Cagnat, a veterinarian at St.-Denis. In twenty-five years' practice he had not seen a single case of tetanus. Toward the close of 1884 he removed a tumefied testicle with the écraseur, and the patient, a horse, died of tetanus. In the course of the next six months he castrated five other horses with the same écraseur, and they all died of tetanus. That the fault lay in the instrument appeared from the fact that, of the many other horses that he castrated with clamps during the same months, not one had tetanus. At the suggestion of Professor Nocart, of Alfort, he now immersed his écraseur for a length of time in boiling oil, after which its use in castrations and other operations was not followed by a single case of tetanus. Another instance, somewhat less striking, was that of M. Huvelier, a veterinarian at Alençon, who castrated fifteen horses in one day, and all but one of them died of tetanus. A third veterinary series occurred to M. Bounian, of Montbrison. In the course of ten days he castrated six bulls and operated on three fillies for umbilical hernia. Five of the bulls and one of the fillies contracted tetanus. During the following year he had only one case after castration, two in the fifth year, and one in the sixth (1886), together with two traumatic cases apart from castration.

Returning to mankind, M. Verneuil adduces the case of a hospital for miners at Ste.-Etienne, with twenty-four beds, in which the only four amputations done in the course of three years were followed by tetanus. After the last case the floors were taken up, the walls were whitewashed, and the whole building was thoroughly purified, and no more cases of tetanus occurred. The strength of the evidence will be lessened, to most minds, by the fact that, of the many patients with wounds and fractures treated in the hospital during the three years, and without antiseptic precautions, none but the subjects of amputation contracted tetanus. The author surmounts this difficulty by suggesting the saw as the inoculating agent. He then alludes to the acknowledged frequency of tetanus after gunshot wounds received in battle, which are specially exposed to inoculation with instruments that are used without thorough cleansing, owing to the haste and turmoil of such an occasion; and to the fact that, in the Hôtel Dieu of Ste.-Etienne, in the seven years prior to 1879 there were ten cases of tetanus under non-antiseptic dressings, while in the seven years following, under antiseptic dressings, there were but two. His conclusions are as follows: 1. Operators may transmit tetanus to their patients, human or animal, singly or in series. 2. Among the factors of transmission we may include instruments, which, becoming tainted with the poison, prove the agents of mediate contagion. 3. This contagion may be conveyed by these instruments after long intervals, implying in the virus fixity, adherence, persistent vitality, and powerful resistance to causes of destruction. 4. These conclusions suggest as an efficient preventive the thorough purification and disinfection of instruments.

It can not be denied that M. Verneuil has made out a very strong case for contagion. The case of Cagnat, in particular, bears all the air of a rigid experimental demonstration. After a quarter of a century of immunity, he meets with six cases of tetanus in six months, all in horses castrated with the same instrument, and the only subjects on which that instrument was used. Then, after disinfection with heat, he uses the same instrument with impunity on a large number of patients. The case seems the more conclusive from the fact that the chain of an écraseur is one of the most difficult instruments to keep pure. That the result was not due to the nature of the operation nor to the weather is evident, because his other patients bore both without harm. If accidental, it was certainly a most remarkable series of coincidences. The epizootic recorded by Huvelier is more easily accounted for; traumatism occurred in all the fifteen subjects on one day, and all were subjected to the same climatic conditions. Unless the contagiousness of tetanus were conceded to be proved, it would be needless to seek a cause in the instruments or in the operator's hands. Bounian's cases also are less conclusive. He observed a circumscribed epizootic of tetanus, and thereafter sporadic cases for a period of six years. This is entirely in keeping with many histories of contagion, but might easily be explained on other grounds also. He used different instruments for the different series of victims, so that the infection, if there was any, must have come from his own person. Larger's four cases, in adjoining beds in the Colmar hospital, remind one of the bed noticed by Brinton, which stood in a draught between a window and a door, and was a recognized source of tetanus until the draught in question was stopped. Then, again, the outbreak in the miners' hospital, after persisting for three years, was put a stop to by disinfecting the building, and not the amputating saw, the alleged cause of the trouble.

In the face of the many cases of tetanus, in man and beast, that occur sporadically and are not communicated to the subjects' attendants nor to those that afterward occupy the same beds or stalls, it seems that proof more irresistible must be presented before we can admit the contagion theory of the disease. We must have the direct experimental inoculation from the tetanic animal to the sound one, rather than the successive use of the same instrument on different animals, all at the time apparently sound. The recognized general immunity of men and animals coming in contact with tetanic subjects, so that they must meet the most virulent foci, should any contagion exist, is highly corroborative of the negative view. The argument drawn from the non-recognition of glanders in man by the physicians of the eighteenth century is less substantial than appears, for glanders could easily have been mistaken for ozæna, syphilis, or some other affection, but no physician or veterinarian of the present day could well mistake tetanus for any other malady. Closely as some cases of rabies may resemble certain forms of tetanus, no thought of rabies would enter the observer's mind in the presence of a well-marked case of tetanus. Again, the extensive occurrence of tetanus under given conditions, as after sheep-shearing in inclement weather, is strongly suggestive of climatic rather than infective influences. Yet, it must not be forgotten that the presence of a pathogenetic microbe is not the sole essential to the production of disease. There must be the susceptibility of the part, inflamed or otherwise debilitated, or of the system, with an abnormally low vitality; and in some cases, as in the exposure of fowls to anthrax, a refrigeration of the body is essential to the production of susceptibility. While, therefore, experience appears to oppose Verneuil's conclusions, they are not therefore to be repudiated at once; his evidence is suggestive enough to demand further essays in the same direction, and the question may well be left *sub judice* until carefully conducted inoculations, under various conditions of the environment, have put the matter to a more crucial test.

As to the alleged equine origin of the disease, it does not appear that a strong case has been made out. Nicolaier's experiments were made on the assumption that he used products from horse manure, but he gives no proof of this, and still less that the horses in question had tetanus. Moreover, Verneuil's cases are alleged to have been derived from wounds received from or about horses that were not the subjects of tetanus. Either, then, we must assume that sound horses produce this poison, in which case tetanus ought not to be the rare disease that it is, or we must reject this extraordinary part of Verneuil's theory.

MINOR PARAGRAPHS.

"THEISM."

Through an unfortunate similarity of orthography in derivatives from different etymons, the susceptibility of orthodox theologians is likely to undergo a rude shock on learning that the term "theism" has been adopted in medical nomenclature as indicative of a pathological condition; and the sub-editors of the religious press, who usually derive their information on scientific subjects at third or fourth hand, may be expected to launch vigorous denunciations against the Ingersollian tendencies of modern physic, especially if they glean, on the authority of our sprightly contemporary, the "Journal of the American Medical Association," that the earlier symptoms of this "new nervous disorder" are "congestion of the cephalic vessels, cerebral excitement, and animation of the face," while, "in chronic cases, theism is characterized by a grave alteration of the functions of the heart and of the vaso-motors, and by a disturbance of nutrition. The patient becomes subject to hallucinations, nightmares, and nervous tremblings." Even the occasional graduate from medical schools wherein no preliminary academic education is required may, after recourse to his dictionary has taught him that "theism" means a belief in God, as contradistinguished from atheism, wonder why this frame of mind in tea-drinkers should be regarded as demanding stringent prophylactic or curative treatment.

Seriously speaking, this singularly infelicitous verbal invention suggests two reflections: First, that the prevalent mania of burdening our professional literature with neologisms, often barbarous and commonly superfluous, should be controlled by some consideration of the ordinary acceptation of the English language; and, second, that, since the majority of European and American, and nearly all of the Mongolian, population have for many generations indulged in the "cup which cheers but not inebriates," without general disaster, the exceptional effects, on exceptional temperaments, of over-indulgence, or even of what to the average man would be moderate indulgence, no more justify the devising of a special term for the subjective narcotic symptoms which are common to other neuro-excitants than "fragarism" would be justifiable for the effects of strawberries on some individuals, "astracism" for the indigestion of lobster-salad, or "cerevisism" for the gouty results of beer-drinking.

LARYNGEAL PHOTOGRAPHY.

Many of our readers are aware of the remarkable success that has been met with by Dr. Thomas R. French, of Brooklyn, in the difficult undertaking of photographing the larynx in the various attitudes assumed by that organ in the living subject, for, several months ago, we published Dr. French's article describing the devices to which he had resorted, together with reproductions of many of the views he had obtained. It will be remembered that Dr. French spoke of the assistance and cooperation of Mr. George B. Brainerd, also of Brooklyn, who, although not a physician, had generously and efficiently aided in this important contribution to medical science. We allude to the subject now in order to express our regret at the recent death of Mr. Brainerd, which took place at his home, in Brooklyn, on the 14th inst. It is fitting that the fact should be noticed in this journal, and that we should add that our information concerning the deceased is such that we may characterize him not only as a man of exceptional ability, but also as one of high character, whose loss in the particular department referred to is likely to be irreparable.

M. PASTEUR'S INTENSIVE INOCULATIONS.

Those who are exercised lest M. Pasteur's latest form of inoculation may communicate rabies to healthy persons are not always temperate in their expressions, if we may judge by a letter which Professor Pajot recently addressed to the editor of the "Journal de médecine de Paris." Although M. Pajot professes his readiness to contribute to a fund for raising a statue of Pasteur, in case it is proved that his practice is successful, he urges its trial on criminals condemned to death, the inoculations to be done under the supervision of a commission consisting of *two fanatics* (presumably, believers in the Pasteur system), two opponents of the method, and a presiding officer chosen by the four.

A FRENCH VERSION OF DR. SAYRE'S ORTHOPÆDIC SURGERY.

A very satisfactory translation of the second edition of Dr. Lewis A. Sayre's "Orthopædic Surgery and Diseases of the Joints" was made by the late Dr. Henri Thorens. We regret to learn that Dr. Thorens's death prevented him from quite completing the task, to which he devoted a great deal of care. The volume has recently been published by Steinheil, of Paris, the concluding work on the translation having been done by Dr. J. Pignol, a hospital interne. An interesting and appreciative preface has been written by Dr. Polaillon, and the book makes a very creditable appearance.

AMERICAN DENTISTS IN BERLIN.

Under date of March 30th, the Polizei-Präsident advertises in the "Deutsche Medizinal-Zeitung" a decree ordering all persons not possessed of an approved medical qualification to discontinue within three months the use of the title "American dentist" on signs, cards, etc. The reason given is, that the title so resembles that of a physician that it may give the impression that the bearer of it is "eine im Inlande approbirte und geprüfte Medicinal-Person"! It would be interesting to know if the German equivalent, "Amerikanischer Zahnarzt," would be tolerated.

ITEMS, ETC.

An Epidemic of Measles is said to have been raging in the Brooklyn Nursery. There were sixty inmates in the institution when the disease first made its appearance, March 25th, and seventeen of the number are said to have died. Thirty-eight of the survivors were reported to be on the sick-list last Tuesday, and it was thought probable that the remaining five would not escape. If these reports are true, the outlook seems a gloomy one.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 19, 1887:

DISEASES.	Week ending Apr. 12.		Week ending Apr. 19.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	15	6	5	1
Scarlet fever	66	9	59	13
Cerebro-spinal meningitis	3	2	6	6
Measles	94	11	78	13
Diphtheria	99	9	79	35
Small-pox	7	5	4	4

The Boston Dispensary.—At the April meeting of the managers Dr. Henry L. Morse was appointed physician to the department for diseases of the ear, and Dr. Henry Jackson, Dr. John A. Jeffries, and Dr. Robert W. Lovett were appointed district physicians.

The Massachusetts General Hospital.—Dr. Reginald H. Fitz, Professor of Pathological Anatomy at Harvard Medical School, has been appointed a visiting physician to fill the vacancy caused by the resignation of Dr. Francis Minot. In the seventy-third annual report, just issued by the trustees, it is shown that the total of invested funds is $2,815,831.59. Of the 176 patients in the hospital on January 1, 1887, 159 occupied free beds. During the year 1886, 2,756 patients were treated, the percentage of deaths being 7·53. The sixty-ninth annual report of the superintendent of the McLean Asylum for the Insane is appended to the foregoing report, and shows a total of 263 cases treated during the year.

The University of Maryland.—The eightieth annual commencement exercises of the medical department were held in the Baltimore Academy of Music on Tuesday, March 22d. The degree in medicine was conferred on ninety candidates.

The Tennessee State Medical Society held its fifty-fourth annual session in Nashville on Tuesday, Wednesday, and Thursday of last week. The meeting was well attended and of sustained interest. The next meeting will be held in Knoxville.

The University of Naples.—According to the "Progrès médical," a chair of clinical therapeutics has recently been established, to be occupied by Dr. Semmola. Our contemporary adds that there are now three Italian universities having that chair, and we quite agree with it that the example is worth following.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending April 16, 1887:*

Griffiths, S. H., Passed Assistant Surgeon. Detached from the U. S. Steamship Lancaster and waiting orders.

Hibbett, C. T., Passed Assistant Surgeon. Relieved from duty on iron-clads, City Point, Va., and waiting orders.

Maesteller, E. H., Passed Assistant Surgeon. Ordered to duty on iron-clads, City Point, Va., the 20th inst.

Society Meetings for the Coming Week:

Monday, *April 25th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

Tuesday, *April 26th:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private); Medical Society of Putnam County, N. Y. (quarterly); Hunterdon, N. J., County Medical Society (Flemington); Litchfield, Conn., County Medical Society (semi-annual); Boston Society of Medical Sciences (private).

Wednesday, *April 27th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Auburn, N. Y., City Medical Association; Medical Society of the County of Albany, N. Y.; Gloucester, N. J., County Medical Society (quarterly); Berkshire, Mass., District (annual—Pittsfield) and Middlesex, Mass., North District (annual—Lowell) Medical Societies.

Thursday, *April 28th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Brooklyn Pathological Society; Cumberland, Me., County Medical Society (Portland); Hartford, Conn., County Medical Association (annual); Litchfield, Conn., County Medical Society (semi-annual); Pathological Society of Philadelphia (conversational).

Obituaries.

James Stewart Jewell, M. D., of Chicago, died on Monday, the 18th inst., in the fiftieth year of his age. For several years he had been the subject of a disease which, it was plain to his friends, forbade the expectation of his reaching a much greater age. He was emaciated, sallow, and feeble in body, but the brilliancy of his mental powers and the charm of his conversation were in no wise dimmed on the occasion of his last visit to New York, some months since, whatever may have been the case toward the close of his life.

Dr. Jewell, who was of mingled Scotch and English ancestry, was born September 8, 1837, near Galena, Illinois. He took his medical degree from the Chicago Medical College in the year 1860, and began practice in Williamson County. In 1862 he changed his residence to Chicago, and has since been widely known as one of the most eminent physicians of that city, and indeed of the whole country—first as a general practitioner, and afterward as a neurologist and as a writer. During the late civil war he served as a contract surgeon in General Sherman's army. For many years he occupied the chair of nervous and mental diseases in the faculty of the Chicago Medical College, and was the professor emeritus at the time of his death. He was one of the founders of the "Journal of Nervous and Mental Disease," and for several years its chief editor. Most of his literary work was published in that journal. More recently, when he had recovered to some extent from the debility consequent on his malady, he began the issue of a new journal, the "Neurological Review," but, unfortunately, was soon compelled, by the renewed inroads of his fatal disease, to suspend its publication.

Dr. Jewell was held in the highest esteem by his fellow-workers in neurology, and was respected, admired, and most warmly regarded by all whose good fortune it was to be brought into contact with him.

OBITUARY NOTES.

Edward T. Caswell, M. D., of Providence, R. I., died on Sunday, April 17th, in the fifty-fourth year of his age. He was a son of the late Rev. Alexis Caswell, D. D., a former president of Brown University, and was born in Providence, September 11, 1833. He was graduated from Brown University in 1853, and from the Jefferson Medical College in 1859, and, after spending three years in study in Europe, settled in Portsmouth, Va., and subsequently in Providence. He was a member of the Providence Medical Association, of which he was secretary in 1864; of the Rhode Island Medical Society, of which he was vice-president in 1876; and of the American Medical Association. Since the establishment of the Rhode Island Hospital he had been one of its surgeons, and since 1866 a consulting physician to the Providence Dispensary. From 1868 to 1876 he prepared the Rhode Island Registration Reports annually. The deceased was a man of more than ordinary attainments. Of a quiet and dignified bearing, he was yet easily approached, and those to whom his friendship was given will realize their loss in common with that of the profession of Rhode Island.

John S. Flint, M. D., of Roxbury, Mass., died on Saturday, April 16th, at the age of sixty-three. He was born in Leicester, Mass., and was graduated from Harvard University in 1843, and from Harvard Medical School in 1846. He belonged to a family in which there have been several physicians, his father having been one, and among those of his relatives who have attained distinction were the late Dr. John Flint, of Boston, and the late Dr. Austin Flint, of this city. The deceased was a member of the Norfolk, Mass., District Medical Society and the Massachusetts Medical Society.

J. V. Smith, M. D., of Melrose, Mass., died on Monday, April 18th. The deceased was born in Bridgeton, Me., and was graduated from the Medical School of Maine in 1869, having completed his medical studies after a term of service in the Second Maine Cavalry. He began his professional career in Boston, but soon settled in Melrose, where he has resided for eleven or twelve years. He was a member of the Massachusetts Medical Society and of the Middlesex, Mass., East District Medical Society.

Proceedings of Societies.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of April 5, 1887.

The President, Dr. Charles L. Dana, in the Chair.

Sarcoma of the Brain (Occipital Lobe) causing Hemianopsia, removed by Operation.—Dr. W. R. Birdsall gave the history of the case, of which the following is an abstract: The patient, a Hebrew, aged forty-two, first came under his observation October 16, 1886. He had always been healthy until the summer of 1885. He denied having had any injury to the head or any venereal disease. In August, 1885, he observed for the first time unsteadiness of gait, and had a severe attack of vomiting. Soon after diplopia for distance and increased awkwardness in walking were observed; also a disagreeable sensation, akin to numbness, in the right leg, hand, and shoulder, but not in the face. This and the diplopia were transitory. Headache, usually frontal, was present occasionally, but was never severe. October 7, 1885, he consulted Dr. E. C. Seguin, who found the eye muscles normal (no diplopia with red glass); the left pupil a trifle wider than the right, both active; the fundus normal. There was left lateral hemianopsia, the vertical line passing a little to the left of the fixation-point; no paresis of tongue, face, or limbs; no anæsthesia. The patellar reflex was normal; the gait was somewhat staggering, with a decided tendency to the right. October 29th, the diplopia had recurred; the left externus was weak; the hemianopsia was the same; there was no hemiopic pupillary reaction. November 7th, there was beginning neuro-retinitis, with drowsiness during the day, and difficulty in rising from a chair. The diagnosis made was that of a tumor of the mesal aspect of the right occipital lobe, involving primarily the cuneus, extending downward toward the tentorium cerebelli, and perhaps also upward toward the paracentral lobule (the leg center). Large and increasing doses of potassium iodide were prescribed.

From January to July, 1886, the patient was under the care of the late Dr. McBride. During the early months of this period his diplopia disappeared and never returned; his gait improved somewhat, but he had two attacks in the street, feeling that he could proceed no further, and staggered toward the left. From September on his difficulty in rising, standing, and walking, together with the drowsiness, increased rapidly. In October, 1886, Dr. Birdsall found double optic neuritis, most marked in the left eye. The left pupil was somewhat larger than the right; there was no diplopia, and no ocular paresis was evident. His movements were clumsy rather than ataxic, at times being accurate, at others wide of the mark, especially those of the left extremities; his gait was slow and uncertain. There was frequent expectoration of a viscid saliva. He had left hemianopsia, which, Dr. Birdsall thought, could be accounted for only by a destructive lesion in the neighborhood of the gyrus cuneus of the right occipital lobe. The locomotor disturbances appeared to him to be due to pressure effects of a tumor on structures below the tentorium, thus implying a growth of considerable size. His disturbance of equilibrium continued to increase in a very irregular manner. His intellect was not impaired. His family observed no change in his character or disposition, but he was extremely uncomfortable mentally. An operation was proposed in February, 1887. It was performed by Dr. R. F. Weir. Regarding the tumor, Dr. Birdsall said it was of such large size, so much of the occipital lobe was compressed by it, that the case was of little value for determining the limitation of the visual area in the occipital lobe. The growth was a sarcoma, originating in the meningeal structures, producing destruction of the cerebral tissues by pressure alone. The absence of severe headache should be noted, as it was usually a prominent symptom of tumors involving the meninges. One of the most important lessons that the study of cerebral tumors taught was that growths remaining limited to the meninges might attain a large size before disturbing the function of neighboring parts of the brain. In these cases regions away from the tumor might give signs of importance before those in contact with the tumor. The extreme fatality of intra-cranial neoplasms was high warrant for taking an extreme surgical risk. The co-operation of neurological science and surgical art in the present state of each could hardly fail to build up an experience which would in some cases save life that would otherwise be lost.

Dr. Weir described the operation, which was performed March 9, 1887. Special antiseptic precautions prior to and during the operation were taken. The periosteum was raised, and two openings were made with the trephine, the first an inch above the occipital protuberance, and the same distance from the median line; the other immediately above. The openings were joined and enlarged by the rongeur forceps to two inches and three quarters by two and a quarter. The dura mater was divided through two thirds of the extent of the opening in the bone, its retained attachment being toward the median line. The tumor was at once recognized and enucleated. It was necessary, on account of its large size, to incise it and press out some of its substance before it could be completely detached and removed through the opening. A great deal of venous bleeding took place, and sponges were stuffed in for temporary pressure, the cavity was inspected by the electric light, and it was seen that a great amount of pressure had been exerted upon the brain; the falx was crowded to the left of the median line, and the tentorium was depressed to a horizontal line. The tumor weighed five ounces and a quarter. It measured three and a quarter inches by two and three quarters by two and a half. One of the bleeding points was found to be in the region of the straight sinus, not free enough to be from that channel, but probably from the pedicle of the tumor; the other, apparently arterial, was probably from a terminal branch of the posterior cerebral artery. The flow from each was readily checked by direct pressure, and it was determined to control it by packing the cavity with iodoform gauze. The dura mater was partly united over the gauze by loose sutures. The operation was well borne until the final enucleation of the tumor, when the pulse fell, apparently from loss of blood. Some hours afterward slight diverging strabismus of the left eye was noticed, a blood-stain appeared through the dressings, the pulse was weak, and the patient was restless. Stimulants were given, and at night infusion of a saline solution was performed, with temporary improvement, and the dressings were removed to control hæmorrhage, which was seen to be taking place in a small stream; but the pulse again gave out, and nothing further could be done than reapply pressure in the supposed direction of the source of the hæmorrhage. Death occurred at 2 A. M. An autopsy was not allowed, but in the lower part of the brain cavity there was seen a large collection of coagulated blood.

Dr. Weir said that in another case, where the hæmorrhage was from vessels too deeply situated for a ligature to be applied, he would control it by leaving on clamp forceps, to be removed after a period of twenty-four or forty-eight hours. The opening in this case, although large, was not sufficiently large to enable him to remove the tumor entire. It was intended to adopt Macewen's method, and employ bone grafts. The speaker had recently replaced the pieces of bone removed by the trephine in a case of epilepsy, the opening being nearly two inches and a half by three inches, and now, about seven weeks after the operation, all but one of the wounds had healed, and the bones were felt to be solid and were painless. Brief reference was then made to the cases of tumor of the brain for which operations had been performed.

Cyst of the Brain; Operation.—Dr. GRÆME M. HAMMOND related the case of a married woman, who complained of severe pain an inch above the right ear, and had left hæmiplegia. At the time her symptoms began she was about twenty-nine years of age. She had had four children, and during the progress of her disease she had a fifth child. All were strong and well. Her sickness lasted about two years and a half. It began by sudden loss of consciousness and by convulsions limited to the left side. The left side of the face became and remained paralyzed. About a year later she noticed gradual loss of power in the left arm; things dropped from the hand. At the end of another year that arm was completely paralyzed. She then noticed increasing weakness in the left leg. When Dr. Hammond first saw her she was able to stand and walk slowly. While the paralysis was extending, she had four or five epileptic seizures, confined to the left side; headache developed about the time the legs became affected, grew more constant, and was described as agonizing. She denied having had syphilis. Physical examination showed loss of the power of motion on the left side of the face, the tongue, and the soft palate, also of the left arm, and partial loss of motion in the left leg. There was no disturbance of sensibility of any kind. The reflexes were exaggerated on both sides. Sight, hearing, smell, and taste were normal. Choked disc on both sides was observed at a subsequent examination. Under treatment, the headache was controlled to a considerable extent. The speaker's diagnosis was that of probable cerebral tumor involving the cortical or subcortical substance of the motor centers. An operation was declined, and the patient grew worse until the 20th of March, 1887, when her husband asked that the operation be performed. Dr. Spitzka then saw the patient with the speaker, and made two examinations. He rather coincided in the diagnosis. The operation was performed in the hospital on the Wednesday before the meeting. Dr. M. Josiah Roberts assisted, removing the portion of skull with his electro-osteotome. Four buttons were removed with the electro-trephine, and the openings thus made were connected by straight cuts made with the circular saw. The diameter of the opening was over two inches. A crucial incision was made through the dura, and a hypodermic needle was introduced in different directions, but no fluid was withdrawn. The dura was closed, a drainage-tube was introduced, the skin flaps were sewed up, and the patient was put to bed. She lived only twenty-one hours, remaining unconscious after the operation. Prior to the operation she had become completely paralyzed in the left lower limb, had delusions and hallucinations, talked incoherently, and had bed-sores.

The autopsy showed but little hernial protrusion at the wound; the cortical substance here was thin. An incision through the motor region revealed three cysts in a line, deep in the white substance. The fluid in the cysts had been only partially examined; it was serum, and contained broken-down brain substance. The cysts were close together, and in a position to affect the face, arm, and leg centers. The speaker could not explain why the syringe failed to bring forth fluid, unless it was because the cysts were too deeply situated, or the needle passed between them. He added to the clinical history that the head was drawn to the right side during the last three days of the patient's life.

Dr. E. C. SEGUIN said that he was partly responsible for the operation in the first case, but it seemed that the patient would not live more than two or three months without it. He had expected to find a large tumor, but was somewhat surprised to see it encapsulated and non-parenchymatous. During the early history of the case the symptoms pointed to destruction of brain tissue. He asked Dr. Hammond whether the sensory or the motor symptoms determined the seat of his operation.

Dr. HAMMOND replied that the headache corresponded to the centers for the motor symptoms and to the seat of the operation.

Dr. SEGUIN added that the seat of the pain would be a very uncertain indication for the seat of the operation. In some cases of cerebellar tumor, for instance, the pain had been mostly frontal.

Dr. E. C. SPITZKA, referring to the case reported by Dr. Birdsall and Dr. Weir, said that an artery large enough to cause fatal hæmorrhage entered the gray and white substance of the right occipital lobe. It had been overlooked in many text-books.

Dr. ROBERTS explained how the circular saw could be used without injury to the brain, and showed the operation of the electro-osteotome.

Dr. M. A. STARR suggested the desirability of an analysis of reported cases of cerebral tumors, for the purpose of determining their rapidity of growth and their size.

Nomenclature in Psychiatry; Monomania or Oligomania; Paranoia.—Dr. R. L. PARSONS read a paper on this subject. An examination of the reports of fifty-one asylums for the insane, taken at random, showed that of the whole number of patients enumerated fewer than two per cent. were classified as cases of monomania, while in twenty-four of these reports the term did not appear. But however much systematic writers on the subject of insanity deprecated the use of the term monomania, they rarely carried their point. There were manifestations of insanity which were neither melancholia nor dementia, but which differed so much from mania that another designation was required for them, and the objectionable term monomania was the only one generally employed. The author thought a suitable substitute could be found. Paranoia had been used to a considerable extent, but, if the meaning of the term monomania was too narrow for the purpose required, that of paranoia was too broad. With the assumption that monomania, as defined and explained by certain writers on psychiatry, designated phases of insanity of sufficient importance and well enough differentiated to require a place in the general classification of mental diseases; and with the further assumption that the reasons adduced in the paper were sufficient to justify the substitution of the term oligomania for monomania, it only remained to apply the proper meaning of the latter term to the former, to wit: A form of insanity which, although potentially affecting all the mental faculties and operations, apparently involved only a part, such as the intellect, the emotions, or the will, or certain manifestations only of a faculty of the mind; which originated in the intellectual faculties rather than in the feelings; and the manifestations of which were well defined, persistent, dominant, and systematic in character.

Book Notices.

Leçons sur les maladies du système nerveux, faites à la Salpêtrière par J. M. Charcot, Professeur à la Faculté de médecine de Paris, etc. Recueillies et publiées par MM. Babinski, Bernard, Féré, Guinon, Marie et Gilles de la Tourette. Tome troisième (deuxième fascicule). Paris: bureaux du "Progrès médical," 1887. Pp. 129 to 518.

This is the conclusion of an interesting and instructive series of lectures by M. Charcot, the first part of which was published about three years ago. It deals chiefly with the different forms of hysteria, with the finish and thoroughness characteristic of the author. The first part of the book is devoted to the presentation of the subjects of aphasia, hemianopsia, amyotrophic paralysis, pseudo-hypertrophic paralysis, and tremor. They are not dealt with analytically, but are presented clinically, the histories of cases such as are likely to be met with often by the physician being given, with remarks concerning the general nature of the diseases in the form of a concise and instructive digest. Perhaps the most interesting part of the book consists of the chapters on hysteria. As a student of the hysterical condition, whether in the female or in the male, Charcot has no equal. His studies and experiments in this field have extended over a period of many years, and, although it is often said that many cases such as he describes are never seen outside of the Salpêtrière, it is nevertheless true that much of our knowledge of nervous diseases, and particularly of hysteria, is due to his careful and scientific observations. Quite two thirds of the book are devoted to the different forms of hysteria in the male, which the author considers much commoner than is generally supposed. In this connection special reference is made to the condition termed "railway spine," which Charcot thinks might better be designated *railway brain*, and the statement is made that the symptoms, whether occurring in a man or in a woman, should be interpreted simply as manifestations of hysteria. Although there is no doubt that concussion does sometimes produce organic changes both in the brain and in the spinal cord—and Charcot does not deny it—yet, in the majority of cases, the fright and subsequent shock alone are sufficient to develop the symptoms that he classes under the head of hysteria. He looks upon traumatism as one of the chief causes of hysteria, and in many of the clinical histories introduced into the book the differential diagnosis between hysteria thus produced and the different forms of paralysis from organic changes is carefully and clearly explained.

In the treatment of hysteria the author depends more on a psychical or moral course than on drugs. He particularly condemns the use of the bromides, stating that, although they are beneficial in epilepsy, they are quite useless both in hysteria and in hystero-epilepsy. The moral treatment recommended includes the patient's removal from the place where the hysteria was contracted, and from association with all persons whose influence may be injurious, and the interdiction of visits from the parents or friends. The medical treatment consists of applications of static electricity and the methodical use of hydro-therapeutics. The moral treatment is all that can be desired, and since its introduction by Dr. S. Weir Mitchell it has been carried out almost everywhere when practicable, but it is very doubtful if the beneficial effects ascribed to static electricity by Charcot have been observed so decidedly by others. The book is well printed, but the illustrations are crude, and in several instances so indistinct as to limit their usefulness considerably. As a whole, the work will commend itself to all readers, and prove a valuable addition to neurological literature.

Dermatologischen Studien. Von Dr. P. G. Unna. Drittes Heft. Beiträge zur Anatomie und Pathogenese der Urticaria simplex und pigmentosa. Zur Kenntniss des elastischen Gewebes der Haut. Viertes Heft. Die Rosanilin und Pararosanilin. Eine bakteriologische Farbenstudie. Hamburg und Leipzig: Leopold Voss, 1887.

The author states that urticaria simplex depends upon a spasm of the veins, together with a slight narrowing of the arteries, of circumscribed areas of the skin. The veins being the chief agents in carrying away the lymph that has exuded into the tissues, he argues that, when they are in a state of spasm while the arterial supply is still active, there must result a stasis, and this leads to the formation of a wheal in the immediate neighborhood. When the spasm ceases, the lymph is rapidly absorbed and the wheal disappears. He makes four varieties of urticaria: *U. traumatica, u. communis (chronica et acuta), u. factitia, and u. pigmentosa.* In the last there is a constant tendency to the recurrence of wheals in a few small vascular territories, probably dependent on irritation of a few peripheral ganglia; and these oft-repeated hyperæmias are followed by deep pigmentation of the skin. Pigmentation accompanies *urticaria perstans* also, but then it is more fugitive, and the wheals of the latter variety are more scattered over the body and break out in new places. The work is illustrated with chromo-lithographs. The studies of rosaniline and pararosaniline as staining agents will be found interesting by workers in histology and bacteriology.

Diseases of the Joints. By Howard Marsh, F. R. C. S., Senior Assistant Surgeon to, and Lecturer on Anatomy at, St. Bartholomew's Hospital, etc. With Sixty-four Illustrations and a Colored Plate. Philadelphia: Lea Brothers & Co., 1886. Pp. x–461.

In scarcely any department of surgery have more advances been made during the last ten or fifteen years than in that of the diagnosis and treatment of diseases of the joints, and a book by an author so well qualified as Mr. Marsh to speak on the subject is welcome. The task of treating of it satisfactorily within a moderate compass was not an easy one, but the author has accomplished it well, and the book is one of great clinical value. Its most excellent portions, we think, are those that deal with "the internal derangement of the knee and other joints," "bone-setting," "disease of the hip joint," and "the prejudicial effects of intra-articular pressure and the danger of producing it by surgical appliances."

Mr. Marsh's teachings on the management of abscesses in connection with joint disease are sound; he states that they should always be opened and thoroughly drained as soon as they are discovered. In regard to the excision of joints, perhaps he is a little too conservative, but that is an error on the right side. No rule can be laid down, and each case must be judged by itself. He protests against manipulation to produce useful mobility after serious joint disease, and states that too often it does more harm than good, frequently provoking a renewal of the disease. We think the author was wise not to try to cover too much ground. The subject of diseases of the spine is omitted, and no special reference is made to those of the smaller joints, but whatever is included is treated of thoroughly. We cordially commend the book.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

Y. J. Pentland, Edinburgh.—T. Parvin, "The Science and Art of Obstetrics." (18*s.*)

J. B. Baillière & fils, Paris.—A. Corlieu, "La prostitution à Paris." (2*fr.*) —— E. Bouchut, "Compendium annuaire de thérapeutique." (4*fr.*) —— F. Villar, "Les tumeurs de l'ombilic." (3*fr.* 50.) Oré, "Hygiène des maternités." (2*fr.* 50.)

G. Steinheil, Paris.—L. A. Sayre, "Leçons cliniques sur la chirurgie orthopédique." Transl. by H. Thorens; preface by Polaillon.

Breitkopf & Härtel, Leipsic.—A. Hoffa, "Ueber den sog. chirurgischen Scharlach." (0*M.* 75.) —— O. Witzel, "Ueber Sehnenverletzungen u. ihre Behandlung." (0*M.* 75.)

A. Hirschwald, Berlin.—J. M. Da Costa, "Handbuch d. speciellen med. Diagnostik." Transl. by Engel and Posner. 2d ed. (12*M.*) —— C. Langenbuch, "Ueber die Principien des zeitgemässen Kriegswundverbandes." (1*M.*) —— A. Wigand, "Lehrbuch der Pharmacognosie." 4th ed. (10*M.*)

A. Hölder, Vienna.—L. Burgentin, "Die Gesundheitspflege in der Mittelschule." (2*M.*) —— E. Neusser, "Die Pellagra in Oesterreich u. Rumänien." (1*M.* 50.)

G. Knauer, Frankfurt am Main.—A. Kühner, "Ueber den Schlaf u. die Verhütung der Schlaflosigkeit." (1*M.* 20.)

Lipsius & Fischer, Kiel.—E. Haacke, "Ein Beitrag zur pathol. Histologie des Magens." (1*M.* 60.) —— P. Riesenfeld, "Ueber Hysterie bei Kindern." (1*M.* 20.)

Urban & Schwarzenberg, Vienna.—R. von Jaksch, "Klinische Diagnostik innerer Krankheiten mittelst bakteriologischer, chemischer u. mikroskopischer Untersuchungsmethoden." (12*M.*) —— A. Martin, "Pathologie u. Therapie der Frauenkrankheiten." 2d ed. (10*M.*) —— J. Schreiber, "Die mechanische Behandlung der Lumbago." (0*M.* 75.)

BOOKS AND PAMPHLETS RECEIVED.

Hystérie et traumatisme: paralysies, contractures, arthralgies, hystéro-traumatiques. Par le Dr. Paul Berbez, Ancien interne en médecine et en chirurgie des hôpitaux de Paris, etc. Paris: Aux bureaux du Progrès médical, 1887. Pp. 125.

De l'endométrite et de son traitement. Par J. A. Doléris, Ancien chef de clinique d'obstétrique et de gynécologie de la Faculté, etc. Paris, 1887. [Publication des "Nouvelles archives d'obstétrique et de gynécologie."]

Decision in Equity Suit of John C. Cotton *vs.* Theo. J. Young et al., Members of the Medical Society of Crawford County (Pa.). Medical Courts and Judicial Councils reversed. Dogberry and Verges vindicated. A Full History of the Case.

Annual Report of the Commissioners of Emigration of the State of New York for the Year ending December 31, 1886. Transmitted to the Legislature, February 9, 1887.

A Text-book of Pathological Anatomy and Pathogenesis. By Ernst Ziegler, Professor of Pathological Anatomy in the University of Tübingen. Translated and edited for English Students by Donald MacAlister, M. A., M. D., Fellow of the Royal College of Physicians, etc. Three Parts complete in One Volume. New York: William Wood & Co., 1887. Pp. xxvii–1091.

Cyclopædia of Obstetrics and Gynæcology. The Pathology of Labor: the Uses of Ergot, being Volume III of a Practical Treatise on Obstetrics. By Dr. A. Charpentier, Adjunct Professor at the Faculty of Medicine, Paris. Translated under the Supervision of, and with Notes and Additions by, Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. In Four Volumes. Two Hundred and Forty-eight fine Wood Engravings. New York: William Wood & Co., 1887. Pp. 348.

A Companion to the United States Pharmacopœia; being a Commentary on the Latest Edition of the Pharmacopœia, and containing the Descriptions, Properties, Uses, and Doses of all Official and numerous Unofficial Drugs and Preparations in Current Use in the United States, together with Practical Hints, Working Formulas, etc. Designed as a Ready Reference Book for Pharmacists, Physicians, and Students. With over Six Hundred and Thirty Original Illustrations. By Oscar Oldberg, Pharm. D., Member of the Committee of Revision of the Pharmacopœia of the United States, etc., and Otto A. Wall, M. D., Ph. G., Professor of Materia Medica, Therapeutics, and Pharmacy in the Missouri Medical College, etc. Second revised Edition. New York: William Wood & Co., 1887. Pp. vi–1216.

Drug Eruptions. A Clinical Study of the Irritant Effects of Drugs upon the Skin. By Prince A. Morrow, A. M., M. D., Clinical Professor of Venereal Diseases; formerly Clinical Lecturer on Dermatology in the University of the City of New York, etc. New York: William Wood & Co., 1887. Pp. vi–199.

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M. D.

Incarcerations of the Iris and Capsule in the Wound after Extraction of Cataract with Iridectomy.—Abadie ("Ann. d'oc.," Sept.-Oct., 1886) calls attention to the importance of the above subject in influencing the ultimate results of an operation for the removal of cataract. Where these adhesions are firm, he advises making a slight corneal incision in the vicinity of the incarceration, as in ordinary iridectomy, then seizing the iris and excising a portion, so as make the existing pupil somewhat larger. If there is a small prolapse of the iris in one of the angles of the wound, an attempt may be made to destroy it by the galvano-cautery. In the case of secondary occlusion of the pupil of slow progress, and without inflammatory reaction, but with a drawing of the iris toward the cicatrix, it is better to use Wecker's scissor-forceps. In case of incarceration of the capsule in the wound, laceration with a needle, or incision with the scissor-forceps, will not suffice. To put a stop to the traction, the superior capsular flap must be divided behind its attachment to the corneal cicatrix. Abadie makes a large incision about half a millimetre behind the line of the old scar, equal in length to the first incision and eccentric to it. The incision is not completed, but a small bridge of tissue is left; in other words, it is a retro-cicatricial sclerotomy. This cuts the incarcerated capsule behind the line of incarceration, and thus sets it free.

On Serous Cysts of the Iris, occurring after Iridectomy.—Hirschberg reports two cases of this nature ("Ctrlbl. f. prakt. Augenheilk.," Sept.-Oct., 1886), and gives a detailed account of the second case, which occurred in a woman, aged fifty-six, who came of a glaucomatous family. Her mother had become blind, and the brother had had an iridectomy done on each eye, and was also blind. The patient herself had had a nasal iridectomy done on each eye twenty years before, probably on account of acute glaucoma. Her vision was preserved until very recently, when the right eye began to fail. An examination showed in the right eye V. = $\frac{20}{70}$, and a normal fundus as far as visible. There was a large clear cyst of the iris filling the infero-internal quadrant of the anterior chamber as far as the periphery, pressing the cornea forward and the lens backward. The cyst occupied nearly the site of the coloboma iridis. In the left eye there was a coloboma of the iris, inward marked dilatation of the pupil, and a cystoid cicatrix; vision was $\frac{15}{100}$. One month later a pressure excavation of the optic nerve had begun to develop, and vision was reduced to $\frac{1}{10}$. A free incision was made in the corneal margin, 7 mm. long, and the knife was passed entirely through the cyst. A broad pair of capsule-forceps was then introduced, and a large grip of the cystoid tissue and iris firmly made, pulled out, and cut off with the scissors. The anterior chamber filled with blood. Two weeks later the patient was discharged, with vision of $\frac{20}{200}$, and the excavation of the optic disc had disappeared.

The Colored Rings in Glaucoma.—Hirschberg ("Deutsch. med. Wchnshr.," 1886, Nos. 3 and 4) believes that the rainbows or colored rings of glaucoma are due to diffraction by the cloudy cornea, because of the spectroscopic arrangement of the colors, because occasionally a double spectrum is seen, and because the innermost blue zone, which is usually dark and is overlooked by the patient, becomes prominent in the electric light, which is richer in refrangible rays than gas-light. He records a case of glaucoma simplex in which colored rings were seen, although an examination failed to show the least corneal cloudiness. In this case the colored rings were intimately associated with nervous excitement. Hirschberg thinks from his experience that it is a highly hereditary symptom. These colored rings may be seen by healthy eyes if the pupils are wide and the conjunctiva highly congested, as after a vapor-bath. In ordinary inflammatory glaucoma the corneal reflex is irregular, with fine iridescent fringes. Colored rings are also observed in corneal cloudiness due to other causes than glaucoma, as in keratitis punctata, also in incipient cataract and conjunctivitis. As points of differential diagnosis between the colored rings of glaucoma and those of conjunctivitis, Hirschberg notes, in the first place, that the great proportion of persons suffering from conjunctivitis do not complain of the colors. In the second place, those who do observe them generally state that the candle is surrounded by a yellow zone with numerous rays, and around this colored zones in order—red, blue, green, red—differing, therefore, from the rings in glaucoma.

Tumors of the Eye and its Adjuncts, consisting of Epithelial Cells developed from Lymphoid Cells.—Schöbl's paper ("Ctrlbl. f. prakt. Augenheilk.," Sept.-Oct., 1886) is a preliminary one to a fuller discussion of the subject. The first case reported was a sarcoma, consisting of epithelial cells of lymphoid origin, occurring in a well-nourished woman aged forty. The left lower lid was swollen, reddened, covered with engorged veins, the tumor being as large as an apple and elastic. The upper lid was normal. When the lids were forcibly opened, the tumor was seen to have a smooth surface. The eyeball was dislocated upward, and completely blind. The entire contents of the orbit were removed, as well as the lower lid, and the orbit tamponed with lint, which was left for several days. When the tampon was with difficulty removed, it was found filled with lymphoid cells, and was followed by a very rapidly growing secondary tumor, which, in a few weeks, filled the entire orbit. The patient died some months later from hepatic metastasis. The tumor consisted of cells with but little cementing substance, and numerous neoplastic blood-vessels, which lay between the cells without any intervening connective tissue. The cells were large, contained sharply defined neuclei and nucleoli, were extremely polymorphous, and could not be distinguished from true epithelial cells. All the blood-vessels were closely surrounded by lymphoid cells, which had passed out of them through their walls, and these lymphoid cells permeated the entire tumor. There were also large numbers of cells which represented all imaginable forms between the small lymphoid cells and the large epithelial cells, which were probably the phases of evolution and transformation from the lymphoid cells to the polymorphous epithelial cells. The *second* case was a subepithelial carcinoma of the cornea of similar origin, occurring in a man, aged thirty-one, following a blow from a beer-glass on the right temple and outer angle of the orbit six weeks before. There appeared on the outer margin of the cornea a small nodule, which the patient often tried to scratch off. It grew gradually till it reached the size of a pea, had a smooth surface, was yellowish-brown in color, elastic, and involved the episclera. The media were clear, and there was total detachment of the retina. The eye was enucleated, and a microscopical examination showed that the tumor was entirely covered by the corneal epithelium and Bowman's membrane. It consisted of a stroma of connective tissue, infiltrated with epithelial, partially pigmented cells, and with large numbers of the same lymphoid transformation-cells as in the previous case. The *third* case was a cancroid of the lid of the same lymphoid origin, occurring in a man aged twenty-six. It began six months before in the right lower lid as a small nodule. The patient scratched it, and there resulted an obstinate ulcer, with infiltrated and irregularly eroded and undermined margins and a brawny base. Eighteen months later the lid was removed by operation, and the wound healed by first intention. The tumor had a stroma of connective tissue, infiltrated with epithelial cells, arranged perpendicularly to the skin surface. There were numerous blood-vessels, surrounded by lymphoid cells, which separated the latter from the true cancroid tissue. These lymphoid cells also penetrated the cancroid tissue, and became gradually transformed into cancroid cells.

Uniocular Exophthalmia with Amaurosis, without Ophthalmoscopic Lesion; Probable Exostosis of the Orbit.—Galezowski reports a case of this nature occurring in a woman aged forty-three ("Recueil d'Ophthal.," Sept., 1886). During her first confinement, when twenty-five years old, she had some serious throat trouble, accompanied by a cutaneous eruption. These symptoms reappeared with each pregnancy. Since 1882 she has suffered from violent headaches. Two years and a half before Galezowski saw her one eye began to protrude, increased slowly, and vision began to fail. The headaches became continuous, and in February, 1885, the eye became entirely blind. She was then given potassium iodide to the amount of two to three grammes daily. Galezowski first saw her June 7, 1886, at which time there was marked exophthalmus of the right eye, with slightly limited motility and almost absolute amaurosis. There was no ophthalmoscopic evidence of disease. Exploration of the orbit with the finger revealed nothing abnormal. Galezowski considered that there was a specific exostosis around the optic foramen, which had caused blindness by compression of the optic nerve. The swelling of the periosteum and of the bone had caused the protrusion of the eye.

Cicatricial Ectropion of the Upper Lid; Blepharorrhaphy.—Richet (*ibid.*) reports a case occurring in a woman, aged thirty-eight, who had been burned by falling into the fire. There was complete ectropion of the upper lid. The corresponding eyebrow was drawn downward. The cicatricial tissue was thick, dense, deep, and extended beyond the palpebral border. The edges of the lids were first freshened, then the cicatricial tissue was divided, the edges of the lids were united by suture, and then all the cicatricial tissue was excised. To fill in the vacant space and make a new lid, a flap was cut in such manner that the inevitable contraction from apex toward base would aid in filling the gap, the base of the flap being below the external commissure. The result was excellent. The eyebrow was elevated to its proper level, and when the eyes were closed it was difficult to decide on which side the operation had been done.

Hypodermic Injections of Cyanide of Gold and Potassium in the Treatment of Ataxic Atrophy of the Optic Discs.—Despagnet (*ibid.*) long since arrived at the conclusion that hypodermic injections of strychnia in cases of atrophy of the optic nerves due to tabes were of no use. He began to employ hypodermic injections of the salts of mercury in these cases, using the albuminate and peptonate, but later giving the preference to the cyanide, in daily doses of five or six drops of a solution of twenty centigrammes of the salt dissolved in ten grammes of distilled water. If the dose is increased, symptoms of gastro-intestinal irritation are apt to be produced. He uses the cyanide of mercury in all syphilitic lesions of the fundus. In cases of atrophy of the optic nerve of central origin, injections of the cyanide of gold and potash are valueless, but in ataxy they have proved useful, either in momentarily arresting the symptoms of tabes and postponing the blindness, or in actually preserving the amount of vision still remaining. In some cases Despagnet claims that vision has actually been improved. He advises daily injections.

Posterior Ophthalmotomy and its Application in the Treatment of Deep Lesions of the Eye.—Galezowski (*ibid.*, Oct., 1886) describes an operation which consists in an incision made in the posterior segment of the eyeball, behind the ciliary region. He usually chooses the space between the superior and external recti muscles. He introduces a Graefe narrow knife one centimetre behind the ciliary margin, and cuts through all the coats of the eye, prolonging the incision from behind forward as far as the posterior margin of the ciliary region. The wound is then allowed to heal of itself, or is united by catgut sutures. There is but little reaction, and the cases all do well. In cases of detachment of the retina, Galezowski prefers to unite the lips of the wound with sutures. He thinks the operation is not at all dangerous if the ciliary region and optic nerve are carefully avoided. The extent of the wound will be the guide as to whether it is to be allowed to heal of itself or whether a suture is to be used. The operation might be advantageously employed for the extraction of foreign bodies lodged in the coats of the eyeball, in extensive detachments of the retina, in buphthalmus, and in certain forms of glaucoma.

Cysts in General, and Dermoid Cysts in Particular.—Tillaux (*ibid.*) defines a cyst as an accidental pocket or sac, usually containing some fluid, not pus or blood, which presents variable characteristics in nature and quantity, and sometimes a semi-solid matter. Cysts in the region of the eyebrow are either sebaceous or dermoid. The former are superficial and adhere to the skin; the latter are situated beneath the muscular layer and are adherent to the subjacent bone by a pedicle. He distinguishes fœtal cysts from real dermoid cysts. The latter consist of a cutaneous sac, within which are found hairs and all the elements of secretion of the skin, such as epithelial masses and sebaceous matter. The dermoid cysts of the eyebrow are due to inclosure of the horny leaf or lamina of the embryo in the branchial fistula. They lie between the periosteum and the bone. To cure them they must be removed entire.

Croupous Ophthalmia.—Liemurski (*ibid.*, Sept., 1886) draws the following conclusions from his investigations: 1. Conjunctival croup should be considered as a complication which appears in the course of an inflammatory process in the conjunctiva, especially if of scrofulous origin. 2. During the appearance of the conjunctival croup other manifestations of the scrofulous diathesis are usually present. 3. Croupous ophthalmia usually appears between the ages of two and ten years. 4. No case of croupous ophthalmia occurs in new-born children, even in cases of purulent conjunctivitis. 5. From time to time real epidemics of the disease break out, which seem to be connected with some special atmospheric conditions.

Tuberculosis of the Conjunctiva and Cornea.—Fontau reports two cases of this nature (*ibid.*, Oct., 1886). The *first* case was a soldier, aged twenty-four, who had a fungoid osteo-periostitis of the external malleolus. After three months of treatment, some small nodules made their appearance in the upper lid of one eye, which soon ulcerated. About this time the night-sweats and diarrhœa began to increase in frequency and severity. These nodules occupied the ciliary margin of the lid, and consisted of a caseous mass, and extended rather rapidly to the tarsal surface of the lid. In a few days the ulceration extended to the *cul-de-sac.* The patient soon died of diaphragmatic pleurisy, and the autopsy showed tubercles everywhere, especially in the serous membranes. A vertical section of the eyelid showed that the ciliary margin, Meibomian glands, and tarsus were inflamed and filled with embryonic cells. In the tarsus the tuberculous nodules as well as the tarsus proper were infiltrated with these embryonic, neoplastic cells, especially along the course of the vessels. The *second* case was a sailor, aged twenty-two, who had no symptoms either of scrofula or of confirmed tuberculosis, but who had a scrofulous kerato-conjunctivitis of the phlyctænular variety. In the right eye, near the corneal margin in the inferonasal quadrant, was a large, yellowish ulcer, with swollen base, which invaded both cornea and sclera. The cornea was the seat of a diffuse interstitial infiltration, on which a serpiginous ulcer had already appeared. After a complete and careful curetting of both corneal and conjunctival ulcerations, and the free use of iodoform, improvement set in, and in a month the eye was entirely well, but with a permanent corneal opacity.

The Ætiology of Herpes Ciliaris, or Conjunctivitis Lymphatica.—Herz propounds a novel theory of causation for this form of conjunctival inflammation ("Klin. Monatsch. f. Augenheilk.," Oct., 1886). He thinks that herpes of the conjunctiva is apt to be associated with some herpetic disease of the skin, and that the common cause of the two is the irritation produced by *pediculi capitis.* He thinks this is proved by the immediate and rapid improvement in herpes and eczema after the destruction of the lice. In many cases there is no simultaneous lesion of the skin, and the conjunctival inflammation is the direct result of irritation of some of the terminal branches of the trigeminus.

Zonular Cataract and Dental Malformations.—Story ("Ophth. Rev.," Oct., 1886) reports nine cases supporting Horner's views on infantile rickets. In these cases the condition of the teeth is noted eight times, and in only two were the teeth normal. In the others the rachitic deformity was always present. It is by no means to be understood that this deformity is in all cases produced by rachitis. All the evidence is in favor of the view that the dental defect is due to an arrest of development of the teeth. Any constitutional or local lesion affecting the nutrition of a tooth during the period of growth of the enamel organ may produce the characteristic defect. It is, of course, very uncertain that the defect in the lens is due to the same cause as the defect in the teeth, but the evidence in the case of the lens points to a temporary interference with its growth as the cause of the cataract, and there is such a close similarity between the lens and the dental enamel in their origin and development that it is natural to expect that they will be affected by the same pathological agents. Both are formed by an involution of the epithelium from the surface of the embryo, and in both the growth proceeds from the deeper layer of this epithelium. The enamel organ, however, has only a brief functional existence, but the growth of the lens proceeds during many years, if not during the whole period of life.

A New Instrument for facilitating Retinoscopy.—Haines (*ibid.*) has devised an instrument for obviating the inconvenience and loss of time attending the placing of the various lenses before the patient's eye in retinoscopy. The spring-clips on the disc are made to hold the ordinary trial-lenses, so that a special set is not required. The vertical adjustment of the instrument is effected by its sliding in a grooved plate, while a spring-catch retains it at the required height. The distance of the disc from the horizontal bar of the instrument is regulated according to the size of the patient's head by a sliding-tube. A side head-rest centers the patient's eye behind the lens. A spring-catch causes each lens to stop exactly in front of the eye as the disc is rotated. The rotation of the disc is easily accomplished by the patient, who in a moment can place either a higher or lower lens before his eye, so that the effect of each lens can be observed with rapidity by the operator without quitting his place of observation, or even allowing the reflection from his mirror to stray from the patient's eye. The instrument can be fixed either to the wall or to the back of a chair. When an eye has been examined, the lenses are brought before the other by rotating the instrument on its axis, so that the disc passes over the patient's forehead to the other side.

A Keratometer.—Priestley Smith (*ibid.*, November, 1886) has devised a new instrument for measuring the diameter of the cornea. It consists of a narrow strip of paper marked in millimetres placed between two plano-convex bases, which together have a focal distance of 10 inches or about 25 centimetres, and which are mounted after the fashion of an ordinary eye-glass. The length of the paper scale is 12 millimetres, this being a little greater than the average diameter of the human cornea, and, to facilitate the reading of smaller measurements, the fifth and the tenth lines on the scale are distinguished from the others by being thicker. The combination of the lens with the scale enables the observer to make an accurate measurement of the cornea without placing the scale in contact with the eye of the patient. The distance between the scale and the cornea must not be great, for the eye of the observer can not at one and the same time accommodate itself for objects at different distances. The patient is told to look at the eye of the observer. The keratometer is held in front of the patient's eye with the scale horizontal and just below the middle of the pupil, the handle being to the temporal side. The observer places his eye at a distance of ten inches from the keratometer. It suffices to measure the horizontal meridian alone. As the margin of the cornea is not a sharply defined line, it is impossible to determine its position to a small fraction of a millimetre.

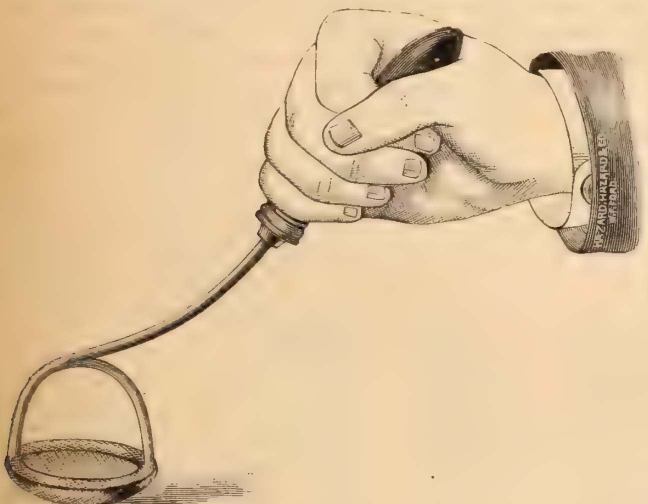
(*To be concluded.*)

New Inventions, etc.

NOTE ON THE RAPID INDUCTION OF CUTANEOUS INSENSIBILITY BY REFRIGERATION; THE APPLICATION OF COLD TO THE SPINE BY MEANS OF THE SAME PRINCIPLE.

By J. Leonard Corning, M. D.

In common with many other neurologists, I have at times had occasion to apply cold to the spine. Sometimes I have employed Chapman's ice-bag, at other times I have resorted to ether spray. In either case it has always seemed to me that I was unable to produce in full measure the benefit of the cold applications, at least so far as any tangible effect upon the cord was concerned. This poverty of effect I have been led to attribute to the antagonistic action of the local blood stream, and notably that of the dorsal muscles. By the antagonistic action of the blood I mean the continual raising of the temperature by the uninterrupted accession of warm blood to the part.



To overcome this difficulty, I have resorted to the simple device shown in the figure. To the end of a curved handle, eight inches long, a ring, an inch and a half in diameter, is secured by an appropriate bifurcation. This ring serves as the frame of a dome of fine wire gauze, with its convexity directed downward. In employing the implement, the convex surface of the wire dome is pressed against that portion of the integument which it is desired to refrigerate (or anæsthetize). The instrument is held with a full grasp of the hand, and considerable pressure should be exerted. If now a spray of ether or, better, rhigolene is thrown upon the concave side of the gauze, anæsthesia may be induced in from a second to a second and a half. This rapid action of the spray is readily understood, if we bear in mind that the pressure of the gauze upon the part effectually occludes the vessels below it, particularly the cutaneous capillaries. As a consequence, there being no warm blood stream to neutralize the effect of the spray, its refrigerating action is given full play, not only on the skin, but on the subjacent parts as well.

I have used this method of refrigeration, in conjunction with previous injections of weak solutions of cocaine (of one or one half per cent.), in a case of neuralgia, but I do not feel justified in pronouncing on the result definitively as yet. Of course, the method is applicable to any part of the surface, notably about the head. For purposes of local anæsthesia or moderate refrigeration it is unequaled. When it is employed for the latter purpose, it is usually well to resort to the ether spray, which should not be held too near the wire gauze, if we wish to avoid instantaneous congelation. When it is desired to make painless punctures with the hypodermic needle, the device will be found useful, as the anæsthesia may be limited to a circumscribed spot of the integument. It is noteworthy that insensibility of the part may be perceptibly protracted so long as the appliance is held in place.

26 West Forty-seventh Street.

Miscellany.

The New York Academy of Medicine.—At the next meeting of the Section in Laryngology and Rhinology, Tuesday evening, April 26th, Dr. Charles Slover Allen will show a new nasal snare and écraseur; Dr. D. H. Goodwillie will describe a new insufflator; and Dr. Clarence C. Rice will read a paper on "The Relation of Catarrhal Inflammations of the Pharynx to Nasal and Laryngeal Disease."

At the next meeting of the Section in Obstetrics and Diseases of Women and Children, Thursday evening, April 28th, Dr. H. C. Havens, of Boston, will read a paper on "Natural *versus* Artificial Feeding during Infancy."

The Ontario Medical Association will hold its seventh annual meeting in Toronto, on Wednesday and Thursday, June 8th and 9th.

Vaccination in Hingham, Mass.—The "Boston Evening Transcript" says that a "Mother Goose" party was given at Hingham last Friday evening under the direction of the Hexagon Club—composed of a few young women—for the purpose of raising money to provide vaccination for the poor girls of Boston. It was decided that only girls should have the benefit of the fund realized from the party, and that they should come to Hingham to enjoy it.

The American Climatological Association will hold its fourth annual meeting in Baltimore on Tuesday and Wednesday, May 31st and June 1st.

The State Medical Society of Arkansas will hold its twelfth annual meeting in Little Rock, on Wednesday, Thursday, and Friday, June 1st, 2d, and 3d.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending April 14th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending March 26th corresponded to an annual death rate of 23·5 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest death rate was recorded in Derby, viz., 16·1, and the highest in Manchester, viz., 35·4 in a thousand. One death from small-pox was registered in Portsmouth, 1 in Manchester, 1 in Blackburn, and 2 in Cardiff.

London.—One thousand seven hundred and twenty deaths were registered during the week ending March 26th, including 1 from small-pox, 77 from measles, 14 from scarlet fever, 13 from diphtheria, 42 from whooping-cough, 9 from enteric fever, and 9 from diarrhœa and dysentery. There were 509 deaths from diseases of the respiratory organs. Different forms of violence caused 63 deaths. The deaths from all causes corresponded to an annual rate of 21·3 in a thousand. In greater London, 2,156 deaths were registered, corresponding to an annual death rate of 20·8 in a thousand of the population. In the outer ring, 29 deaths from measles and 10 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending March 26th, in the sixteen principal town districts of Ireland, was 28·4 in a thousand of the population. The lowest rate was recorded in Wexford, viz., 17·1, and the highest in Drogheda, viz., 42·3.

Dublin.—Two hundred and twelve deaths were registered during the week ending March 26th, including 4 from measles, 7 from scarlet fever, 3 from whooping-cough, 1 from cerebro-spinal fever, and 3 from enteric fever. Diseases of the respiratory organs caused 53 deaths. In thirty-five instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 31·3 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending March 26th was 25·9 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Leith, viz., 10·8, and the highest in Aberdeen, viz., 36·8 in a thousand. The aggregate number of deaths registered from all causes was 646, including 55 from measles, 18 from scarlet fever, 6 from diphtheria, 31 from whooping-cough, and 14 from diarrhœa.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,763,987, during the week ending March 12th, corresponded to an annual death rate of 25·5 in a thousand. The lowest rate was recorded in Carlsruhe, viz., 14·4, and the highest in Augsburg, viz., 39·4 in a thousand. During the week ending March 19th, the deaths registered corresponded to an annual rate of 25·2. The lowest rate was recorded in Görlitz, viz., 14·5, and the highest in Augsburg, viz., 41·7 in a thousand.

Catania.—Twenty-one cases of cholera and 11 deaths from that disease were registered during the week ending March 19th. The consul states that "nearly all who can get away from the city have gone to the slopes of Etna and elsewhere. The city is almost deserted. Business is paralyzed, the poor are suffering, not being able to get work. There is no doubt but that there have been more cases and deaths than reported. The people have a terror of the lazaretto. Hence, when a friend or relative is attacked, often they do not report the case, and the sufferer does not have the advantage of good treatment. . . . Good water is now conducted into the city in closed conduits. The wells have been closed. It is hoped that this may improve the public health."

Havana.—Five hundred and forty deaths were registered during the month of March, including 8 from yellow fever, 6 from enteric fever, 1 from bilious fever, 3 from pernicious fever, 2 from small-pox, and 6 from diphtheria. Yellow fever caused 4 deaths during the week ending April 7th.

Maracaibo.—The United States consul, in his dispatch dated March 7th, in relation to the subject of inoculation as a preventive of yellow fever, briefly mentioned in Abstract No. 51, inclosed copies of letters from the Venezuelan consul at Cucuta, Colombia, and from Dr. Bustamente, of the same city, from which it is learned that "Dr. Urricoechea, surgeon of the frontier battalion, inoculated, by way of experiment, and with good results, five of his soldiers. Twenty minutes after the operation the temperature gradually ascended to 40° C., accompanied with all the symptoms of yellow fever. This lasted forty hours, at the expiration of which had disappeared the fever and all attendant symptoms. This operation was effected in a place called Moras, three leagues from Cucuta, and where a body of troops is stationed, who have not come to this city for fear of the fever. At present the inoculated soldiers are here, exposed to the action of the focus of infection. As in Moras, no case of the epidemic has as yet presented itself." Dr. Bustamente, in his letter, states that "as my labors in the field of inoculation as a preventive of yellow fever are only, it may be said, mere experiments, which, although they may satisfy me with a well-founded hope of successful and complete result, can not be of genuine utility until the best and most efficacious method is decided upon. I am thinking, however, of making an abstract of my observations, together with the method pursued, the results obtained, and everything that may be useful in the premises. For the present I will confine myself to the statement that in more than forty persons whom I have inoculated, a fever, with many of the characteristic symptoms of yellow fever, has presented itself; this fever, developed by inoculation, varying several tenths of a degree, and in some cases ascending to 41° C., but never presenting the most grave symptoms of yellow fever. The result of my observations permits me to state positively that the fever produced by inoculation is attended with no danger, and it is safe to inoculate, as I have already done, from children of two years of age to the oldest individuals. Many of the persons inoculated have come to this city, and in no case has the yellow fever attacked them, which gives me hope of a final result completely satisfactory. The municipality, assisted by the merchants, sent to Mexico, January 10th, a commission composed of two physicians, in order to study the inoculation of the fever."

Paris.—One thousand three hundred and fifty-six deaths were registered during the week ending March 26th, including 62 from measles, 5 from small-pox, 13 from whooping-cough, 44 from enteric fever, 3 from scarlet fever, and 31 from diphtheria.

Warsaw.—Two hundred and thirty-one deaths were registered during the week ending March 19th, including 5 from small-pox.

Trieste.—Ninety-eight deaths were registered during the week ending March 12th, including one from enteric fever, 1 from scarlet fever, and two from diphtheria. Two cases of small-pox were registered, but no deaths from that disease.

Havre.—Sixty-four deaths were registered during the week ending March 26th, including 1 from small-pox, 1 from enteric fever, 3 from diphtheria, and 1 homicide.

Palermo.—One hundred and ten deaths were registered during the week ending March 26th, including 1 from enteric fever, 4 from scarlet fever, and 8 from diphtheria.

Genoa.—One hundred and twenty-seven deaths were registered during the week ending March 26th, including 3 from small-pox and 2 from enteric fever.

Amsterdam.—Two hundred and twenty-eight deaths were registered during the week ending March 26th, including 1 from enteric fever and 3 from diphtheria.

Copenhagen.—One hundred and fifteen deaths were registered during the week ending March 22d, including 8 from diphtheria.

Toronto.—Thirty deaths were registered during the week ending April 2d, including 2 from enteric fever and 2 from diphtheria.

Three Rivers.—Seven deaths were reported during the week ending April 9th, including 1 from diphtheria.

Mortality Table, Foreign Cities.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	March 26.	2,260,045	1,356	..	....	5	....	44	3	31
Warsaw	March 19.	431,572	230	..	....	5	....	....	....	....
Havre	March 26.	112,074	64	..	....	1	....	1	....	3
Trieste	March 12.	150,157	98	.	....	....	....	1	1	2
Palermo	March 26.	250,000	110	..	....	....	....	1	4	8
Genoa	March 26.	179,382	127	..	....	3	....	2	....	....
Amsterdam	March 26.	378,690	228	..	....	...	....	1	....	3
Copenhagen	March 22.	289,000	115	..	....	....	....	....	....	8
Toronto	April 2.	120,000	30	..	....	....	....	2	....	2
Three Rivers	April 9.	10,000	7	..	....	....	....	....	....	1
Leghorn	March 27.	101,172	56	..	....	....	....	....	....	...
Pernambuco	March 15.	111,000	61	..	...	....	....	....	....	...
Cadiz	March 26.	65,028	64	..	....	....	....	....	....	....
Gibraltar	March 20.	23,631	12	..	....	.. .	....	...	....	....
Matamoras	April 2.	12,000	12	..	....	....	....	....	....	...
Acapulco	March 27.	4,000	3	..	....	...	....	....	....	....
Laguayra	March 26.	7,428	5	..	....	...	....	....	....	....
Rotterdam	March 26.	190,521	109	..	....	....	....	....	....	....
St. Thomas	March 18.	15,000	12	..	....	....	....	....	....	....
Curaçoa	March 26.	25,000	11	..	....	....	....	....	....	....
Kingston, Canada.	April 8.	15,109	..	..	....	....	....	....	....	....

The Health of Boston.—During the week ending Saturday, April 16th, the following number of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 25 cases and 7 deaths; scarlet fever, 22 cases and 3 deaths; typhoid fever, 15 cases and 2 deaths; measles, 60 cases and 3 deaths. There were also 27 deaths from consumption, 24 from pneumonia, 5 from bronchitis, 10 from heart disease, and 5 from marasmus. The total number of deaths was 188, against 155 in the corresponding week last year.

A Correction.—In the article entitled "Epithelioma developing upon a Psoriatic Base," published in our last issue, page 446, the concluding sentence should have been: *they show, further, that sporiasis is a parakeratosis, and is not merely inflammatory in its nature.*

THE NEW YORK MEDICAL JOURNAL, April 30, 1887.

Original Communications.

DIAGNOSTIC AREAS OVER THE HUMAN CHEST.*

By J. R. LEAMING, M. D.

The human chest is an acoustic chamber mathematically adapted in its interior form for the reflection and consonation of sound waves originating in the larynx.

It is composed of bones, cartilages, and muscles. The upper part or cone-formed roof is bound firmly together by ligaments. But, by reason of the muscular interlacing of the ribs, the muscular diaphragm, and of the spiral form and elasticity of the ribs and cartilages, the lower part admits of expansion and contraction, enlarging or diminishing the acoustic chamber in capacity and power.

The contents of this chamber are the heart and lungs and their appendages—the air-passages and the great vessels. The pleura is a dense, shining, elastic membrane, which covers the contents, and is thence reflected over the inner chest-wall, and, forming a fold, the mediastinum, divides the chamber longitudinally for the reception of the right and left lungs.

The mediastinum is divided, for description, into upper and lower, anterior and posterior. It infolds the great vessels and the trachea, to which it is attached by cellular tissue.

The heart occupies a portion of both pulmonary cavities, lying through and across the mediastinum, to which the pericardium is attached, and which is also attached to the diaphragm, limiting the too free movement of the apex. The lungs, fixed in position by their attachment to the mediastinum and the trachea above, are free below. The heart, enveloped in the lungs, hangs like a bell in its tower, which may be dislocated to the right or to the left, backward or forward, or may be drawn or pressed upward to a degree, but is not easily displaced downward.

The lungs are divided into lobes for greater freedom of movement and for a greater surface for the full distribution and development of peripheral air-sacs in which the greater part of the blood is aërated.

The lungs fill the chest cavity with expansive force even after expiration. Their great mobility, everywhere moving freely against lubricated smooth pleural membrane, gives opportunity for every air-sac to receive its full proportion of air. The periphery of the lungs is pressed against the chest-wall. In inspiration the lung moves along a definite distance, and in expiration returns again.

Each air-sac, distended with compressed air, is a resonator, and is in direct connection with the outer air during inspiration. Vibrations in the convective air-tube, friction sound of the tidal air, and the susurrus of the muscular covering of the sacs themselves, are all consonated in them. The ear placed, against the outer wall, hears clear through each little speaking-tube as the lung moves along, the repetition being infinite and rapid, the impression of multitudinous vibrations in concerted loudness and smooth volume is heard, which is the natural respiratory murmur.

In a closed room we may measurably exclude outside sounds. We may increase the air and tube friction murmur by hurrying the respiration, which is broncho-respiratory murmur. By holding the breath after a full inspiration we get the muscular susurrus of the air-sacs, which is true respiratory murmur. Thus may we analyze the respiratory murmur and diagnosticate pathological changes in the broncho and true respiratory systems by applying the unvarying laws of sound, and make auscultation scientific.

Every portion of the chest-wall gives these evidences of the condition of the contained lung except that of the apex-beat area; there the heart is pressed against the chest-wall, pushing aside the enveloping lung. These are the two natural grand areas over the chest-wall—the pulmonary and the cardiac.

The heart and lungs, in their movements within the chest-wall, produce sound which may be diagnostic; but this is not the great function of this marvelously acoustic combination of sound chamber and multiple consonating lung. The power, compass, and infinite modulation of the human voice become possible in the multitudinous resonance and sound conduction of the lungs inclosed in a perfect acoustic chamber. Those who listen with delight to the music of the voice of a great singer like Patti must stand in awe at the divine mechanism, sentient with the soul which, through the organic life, governs these harmonious combinations of sound.

Wonderful as is the acoustic quality of the perfect sound chamber in its normal condition of sensitive delicacy, it is still more wonderful that, exposed as is the person to all the vicissitudes of climate and the nervous depression incident upon a life of anxiety and worry, these conditions of nicety of function can be continued so many years in any degree of perfection.

We are told that autopsies frequently reveal organized adhesions of the lungs to the chest-wall, or of the lobes to each other, or to the pericardial sac, which had not been suspected during life. But each attachment is an opening for sound leakage, both of the voice and respiratory murmurs, and constitutes a diagnostic area which should have been discovered by the careful auscultator.

Attached to the outside of the chest-wall by muscles and ligaments are the clavicles and scapulæ, the machinery for the movement of the arms. The clavicles are the braces in front, which are points of resistance to the power wielded by the arms. The scapulæ are placed behind, and are jointed to the clavicles, but their distal ends are free, and are allowed considerable movement, sliding over the surface backward and forward. This outside machinery has nothing to do with the acoustic conditions of the chest, but is made the basis for regional mapping of the surface by writers on chest diseases. In front there are the supra-clavicular, the clavicular, the infra-clavicular, the supra-mammary, the mammary, the infra-mammary, the sternal, the apex, and the base. Behind these are the supra-scapular, the scapular, the inter-scapular, the infra-scapular, the base, and the apex. At the side are the axillary, the infra-axillary, and the base. This mapping of the chest-surface is useful in locating artificial areas.

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* Read by title before the Medical Society of the State of New York at its eighty-first annual meeting.

The two great natural areas have definite boundaries, but the lung partially overlaps the heart in front, making a shadowy neutral ground of great possible diagnostic importance.

The lung is both a very good and a very poor conductor of sound. The air in the convective tubes is a direct sound conductor, like the air in speaking-tubes. The air in tubes and sacs lying upon each other, as in the mass of the lung, is not sound-conducting in any degree.

Over this borderland of thin lung inclosed within the outlines of the heart and of the lungs, the respiratory sounds are as perfect in the normal condition of the lung as in its greater depths; but it is more subject to pathological products which speedily alter the acoustic conditions and result in pathological or accidental areas, into and through which the respiratory murmurs and heart sounds are telephoned. Consequently this, the cardiac region, is more frequently the locality of artificial areas. But healthy lung anywhere becoming adherent, normal respiratory murmurs are focused into this definite area with so much exaggeration as to be mistaken for evidence of pathological conditions within the lungs. But still more misleading are the signs where the adhesion attaches the chest-wall to a portion of shriveled lung from fibroid invasion extending down to a dilated bronchus. The area over the adhesion is depressed, and there is cracked-pot percussion resonance. There is also cavernous respiration. The voice and whispering tests, all but the coughing test, seem to prove the existence of a cavity, and yet there is none, and there has been none. It is simply conducted sound from a dilated bronchus through consolidated tissue.

A brilliant young member of our profession had such an area of depression over the right bronchus following an acute attack of fibroid from which he recovered, but died of other disease. The autopsy showed shriveled fibroid lung attached to the chest-wall, but no cavity. All of the physical signs, except the cough test, seemed to indicate a cavity. These cases are called anomalous; but are they so? They entirely agree with acoustic law, and, under the same physical conditions, the same physical signs will always be present. President Day had hæmorrhages and other signs of phthisis in his youth, but he recovered and lived to be ninety-five years old. The same physical conditions existed at the autopsy, and no doubt the same physical signs were present in life. The published account called the shriveled lung a cicatrix, which is a mistake, for the lung does not cicatrize after an ulcerated excavation has taken place.

These curious diagnostic areas occur only over large bronchial tubes, particularly over the right bronchus in the right infra-clavicular region. In the left infra-clavicular region another diagnostic area is established by adhesion of the lung to the chest-wall, resulting in hoarseness and altered tones of the voice from involvement of the recurrent laryngeal nerve. Laryngologists will fail in the treatment of this affection unless they recognize its interpleural pathology and apply the means for its removal.

Adhesions of healthful lung to the chest-wall may be cellular, loosely attached, allowing more or less freedom of movement, masking somewhat the respiratory murmur by râles and friction, but interfering but little with the office of aëration of the blood. The size of the râles measures the degree of movement. The adhesion may be so tight and firm that there will be no friction or râles, or it may move but little, and fine crepitant râles result, a sign which has been considered pathognomonic of pneumonia, which it does not always accompany, and, as it frequently occurs without pneumonia, it loses its pathognomonic character. Yet both of these signs indicate conditions of serious embarrassment of the circulation in the true respiratory system, and may be followed by hæmorrhage or pneumonia. A sign of importance accompanying the absence of râles or their crepitant character is feeble respiratory murmur. The lung does not move, but is held fast by the attachment and prevents the passing and repassing of the innumerable speaking-tube arrangements under the ear.

When the pulmonary pleura is partially covered with pseudo-membrane not adherent or loosely so, the air and friction murmur does not pass directly through the chest-wall, but is arrested by the thickened pulmonary pleura and spreads itself over the whole extent of organized exudation. The murmur has an indefinite jarring character, like that of glass in a window after an explosion or the firing of guns, and is spoken of as harsh respiration.

Circumscribed pleuritic effusion, posteriorly in the right pleura, filling the sac to its utmost tension, over consolidated lung, with the colon distended with gas in front, will give tympanitic resonance by percussion over the circumscribed area of effusion. This apparent anomaly is acoustically explained thus: The particles of fluid within the tense sac receive the impulse of percussion, carrying the impulsion on through the consolidated lung into the compressed air of the colon, where it resounds, and these sound vibrations are carried immediately back to the point of percussion, and tympanitic resonance is heard. The familiar illustration of our school days of the ivory balls in a row touching each other is recalled. An impulse given at one end of the row will be passed through all, but the last one only will fly off; but, striking against a resisting barrier, will be sent back, and, striking the second ball, the impulse will be carried back again through the row, and the first ball will fly off in the direction from which it received the original impulse.

Tumors, concretions, or cavities in the center of an otherwise healthful lung are difficult of detection, for the only sound conduction is that of the air within the bronchus, whose branches may be distributed to a portion of lung surface some distance away. This area, if suspected, must be sought diligently, for it is not of great loudness nor distinctness; but should the lung become consolidated and adherent, the diagnosis immediately becomes plain by reason of the great sound leakage.

Peribronchitic exudation of lymph without interpleural exudation gives a diffused murmur, heard over the area of bronchial distribution. But if there is also interpleural adhesion, the respiratory murmur will be feeble or absent, replaced by bronchial respiration and bronchophony, the usual signs of phthisis, but not necessarily tubercular.

The apex of the lung is more prone to this pathological change, being inclosed in the cone-shaped roof of the chest-wall, in which the lung has least movement and receives less benefit from expansive treatment than in other portions. Consequently, cheesy or necrotic changes here sooner commence. This is the phthisical area.

The lung below and at each side of the apex-beat area is thin, has less expansive force than other parts, becomes adherent frequently, and causes sound leakage both from the heart and lungs. It has most influence, however, upon the heart, causing irritation and frequency of the heart-beat. The patient also becomes nervously sensitive to sights and smells, causing nausea.

Diagnostic Areas of Heart Murmurs.—The natural areas of heart murmurs are three in number. First, the apex-beat; second, the aortic obstructive and aortic regurgitant; third, the mitral regurgitant of Cammann.

The apex-beat area is over that part of the chest-wall under which the heart lies uncovered by lung, where the heart-beat is felt and where the heart's sounds are distinctly heard.

The portion of the heart thus brought directly in contact with the chest-wall in diastole is the lower part of the right ventricle, the septum, and a small portion of the left ventricle, which in systole, by its superior force in contraction, recedes, turns to the right, and strikes the chest-wall. Consequently, the sounds and murmurs heard over the apex-beat area are properly described as intra-ventricular. Within the boundaries of this area are heard the first and second sounds and the various intra-ventricular murmurs, and the aortic regurgitant murmur, and we proceed to analyze them with the same assurance of coming to the truth as we would in applying the laws of light in demonstrating the conditions of the interior of the eye. The elements of sound vibration within the ventricle are, first, the mitral valve; second, the chordæ tendineæ; and third, the rushing blood.

If the valve or the chordæ have been made *over-tense* or *under-tense*, or if the vibrations have been obstructed by lymph deposits upon the valve or upon the chordæ tendineæ, or if the quality of the blood has been altered, then the first sound will have been altered, and *that* we call a murmur. The force applied is the muscular contraction of the walls of the ventricle. If the contraction is irregular, the tension of the valve or of the chordæ will of course be irregular, and the sound vibrations resulting will be slower or more rapid, of higher or lower pitch, according to the degree of tension of the valve or chordæ, producing discord or murmur. As the chordæ are many, what a variety of discords may ensue! Like the bow of the violinist, the blood is the immediate cause of vibrations. It has been proved by experiment that the heart contracting without blood in its cavity gives out no sound.

The late Dr. George Philip Cammann called all of the intra-ventricular murmurs which had a valvular or partly valvular quality "mitral non-regurgitant." They may with propriety also be called mitral obstructive, for they have a harsh rasping character, denoting deposits upon the valve which impede the movement of the blood.

The loud blowing murmurs not having the harsh valvular quality denote alteration of the normal tension of the chordæ tendineæ, and may be owing to irregular hypertrophy of the ventricular walls or to spasmodic contraction, from functional disturbance, from deposits upon the chordæ, or from altered quality of the blood.

On account of the great variety of murmurs heard at the apex-beat area, the imagination of writers has been stimulated to fable them as signs of conditions which do not exist. The heart is double; there are two auricles, two ventricles, and two sets of valves, and the endeavor of some writers has been theoretically to give to each chamber, to each orifice, and to each valve a particular murmur which is not found in nature, and this leads to error in diagnosis.

The heart has but *one action*—it *contracts*. Both auricles and both ventricles contract exactly in the same period of time. The contraction commencing in the auricles instantly passes into the ventricles and continues down to the apex, performing the great function of the heart, that of forcing the blood out of its cavities, and is ended by the apex-beat. After this *one* action the whole heart rests, and, being relaxed, again fills with blood passively. Working as one organ, there is perfect synchronism of valve and cavity sound; it is systolic.

The rest or relaxation of the heart is the time between the contractions—the diastole. The second sound is caused by the return blood closing the valves. The cause is extra cardiac; it is the return blood in the aorta. The heart acts and the first sound results; it relaxes and the return blood in the aorta closes the valve, causing the second sound.

The original application of the terms systole and diastole was made under a misapprehension of the physiology of the heart's action. The contraction is not the forcible bending of a resisting spring, nor the diastole its forcible unbending. There is no force of muscle, nor any other, in diastole, except the vis a tergo of the constantly moving blood. The heart is passive except during its contractions. The first sound is long, the first interval of silence is short; the second sound is short, the second interval of silence is long. This measures the full round of the heart-beat.

This is the rhythm of the heart. The relative time of each division of a revolution is as follows (according to Walshe): First sound, 0·4; first silence, 0·1; second sound, 0·2; second silence, 0·3, making ten equal parts for each revolution. This may not be exact, but it is sufficiently so for illustration, and the practiced ear is a perfect microphonometer and will in every case detect the slightest fault in rhythm. With perfect rhythm there can be no incapacity of the valves nor obstruction to the course of blood, and consequently it is an absolute test of the perfect action of the heart as a pump, no matter how loud or discordant may be the murmurs.

The aortic obstructive area commences over the aortic orifice and extends across the sternum, following the course of the aorta. There are two points of great intensity—one just beyond the sternum, and the other about one inch and a half below the aortic orifice in the middle of the sternum. These are points of conduction of sound from the base of the heart by direct attachment. A vegetation or a loose tongue of fibrin adherent at the aortic orifice will give a loud musical murmur which may be heard throughout every part of the chest-wall, but with greatest intensity at these diagnostic points. The cause of sound is between these points, and the vibrations are conducted equally into both. The diagnosis is certain and complete. The point of greater intensity just to the right of the sternum is of low pitch, while the other, being conducted through bone in the sternum, is of higher pitch.

The aortic regurgitant area extends from the aortic orifice to the apex-beat, but has its greatest intensity about one inch from the aortic orifice, in a line toward the apex-beat. It also extends the whole length of the sternum, but has its maximum intensity only at the same point in the sternum where the obstructive murmur is heard, and from the same cause—conduction of sound through attachment to the mediastinum.

The aortic regurgitant murmur is soft and gentle, and may escape the attention of the observer. It generally succeeds the obstructive murmur in the order of time which may have existed two or three months previously as the result of plastic deposit upon the valve, which, still contracting, would finally permit regurgitation. After an attack of inflammatory rheumatism in which we may have reason to believe that there has been plastic deposit upon the valve, we may watch the changes which consequently take place. The obstructive murmur will be our first evidence which proves that the heart has a new resistance to overcome, and the ventricular walls will hypertrophy as a necessary consequence. The rhythm will be lost, for the heart, working with greater energy, throws the blood farther into the aorta and lengthens the first interval of silence. The return blood is thrown back upon, and closes, the valve with greater force, and the second sound is *accentuated;* and, in addition, a blowing murmur commences at the apex-beat as a result of the hypertrophy. The second sound, from being accentuated, becomes muffled. Soon after, regurgitation will take place with a murmur like a faint sigh heard at one or the other of the diagnostic points in the area.

Cammann's Area of Mitral Regurgitation.—When the mitral valve becomes incompetent, so that regurgitation takes place, a characteristic murmur will be heard to the left of the spine over the intervertebral cartilage between the seventh and eighth dorsal vertebræ. Like the aortic regurgitant murmur, it is soft in character, not harsh or blowing, like the intra-ventricular murmur, but differs in this respect from the aortic, that it comes directly into the ear as if shot from a syringe, and gives an idea of largeness as well as directness. Other murmurs may be carried into and over this area, but will want the qualities of largeness, softness, and directness which are absolutely diagnostic of mitral regurgitation.

The late Dr. George Philip Cammann, the discoverer of this diagnostic sign, and whose name I have given to the area described by him, says: "The murmur may be heard from the lower border of the fifth to the lower border of the eighth vertebræ, with maximum intensity between the seventh and eighth." The diagnostic point, however, is over the intervertebral cartilage between the seventh and eighth vertebræ, and the qualities of softness, largeness, and directness essentially belong to it alone. Like the aortic regurgitant murmur, it signifies that serious mischief has been done, and that more may be apprehended. It is the only unfailing sign of mitral regurgitation. Both the aortic and the mitral regurgitations, when caused by plastic deposits upon the valves, may be prevented by removal of the deposit by timely appropriate treatment.

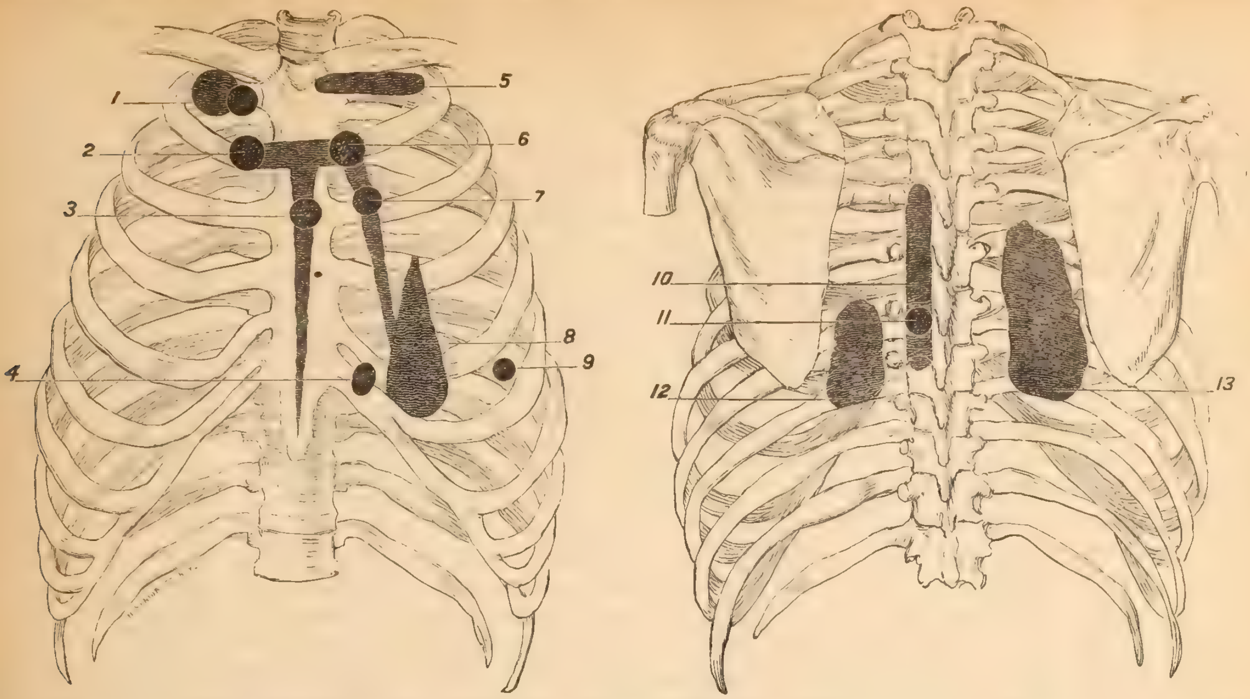
Cammann's area, like the aortic obstructive and aortic regurgitant areas, is fixed, even as the base of the heart is fixed, by attachment to the great vessels and the mediastinum. The apex-beat area is movable, as the apex is. When the heart hypertrophies, it turns upon its side, and the area will be extended to the left under the axilla, or the apex beat may be felt and heard just to the left of the lower end of the sternum, being attached to that point by contracting adhesions to the pericardial sac.

As the heart enlarges, it presses the lung back farther and farther, thus increasing the area of dullness, as well as changing its position.

Besides these natural areas, there are others which are artificial. A band of adhesions, attaching the lung to the chest-wall, which is already adherent to the pericardial sac, forms a direct conduction for leakage of sound, and creates an artificial area, over which there is a murmur so like the apex-beat intra-ventricular murmur as to deceive many. These areas may occur over any part of the chest-wall by which pathological products may directly conduct sound, and, if recent, may disappear under the influence of antiplastic treatment.

Case I.—A physician, with a large general practice, called at my office for an examination of his chest. Before I had placed my ear against his chest I could hear a loud cardiac murmur. There was a loud intra-ventricular murmur at the apex beat of a decidedly valvular quality, harsh and sawing. To the left of the apex-beat area, through the lung to the pericardium, there was attachment to the chest-wall, creating an artificial area for the leakage of sound, over which there was a murmur very similar to that of the apex beat. Over the pulmonary area, so called, but nearer to the mediastinum, there were interpleural plastic freshly organized râles, extending deep into the chest, near the mediastinum. The diagnosis that we arrived at was: Lymph deposits upon the mitral valve, intra-ventricular murmurs, with adhesions attaching the pericardial sac to the chest-wall to the left of the apex-beat area, and also adhesions to the pericardial sac over the left auricle and mediastinum.

The treatment concluded upon was mercurialization to the point of ptyalism, repeated small blisters, and the iodide of potash. This round was pursued with the effect of relieving the signs in a marked degree. The same round was twice repeated, when, all of the pathological signs having disappeared, all treatment was discontinued. The doctor had made up his mind that he must give up his practice, but in about six months he was able to resume it, and he continues in all the duties of a large practice, is in excellent



1. An artificial area of condensed tissue over a dilated bronchus, right side; the physical signs simulating those of a cavity. 2. One of the natural areas of obstructive aortic murmur, over the aorta as it emerges from under the sternum 3. One of the areas of aortic obstructive and aortic regurgitant murmurs. 4. An artificial area of adherent condensed lung tissue, conducting both heart-sounds and respiratory murmurs; it may extend up along the left border of the sternum or along the base of the left lung in front. 5. An artificial area of attachment of the pleura under the left clavicle, altering or abolishing the voice from involvement of the recurrent laryngeal nerve. 6. The aortic natural area, and, extending to the left and upward, an artificial pulmonic area, sometimes incorrectly called the mitral area. 7. The arotic regurgitant natural area, the counterpoint of 3. 8. The apex-beat, or natural cardiac area. 9. An artificial area of false apex-beat from pericardial and pleuritic attachments. This area may extend to the right or left of the point indicated. 10. Cammann's natural area of mitral regurgitant murmur. 11. The diagnostic point in Cammann's area. 12. An artificial area of conducted heart-sounds from condensed adherent lung or excavation. 13. An artificial area of conducted heart-sounds from condensed adherent lung, where tricuspid regurgitation may be heard when it exists with condensed adherent lung.

health, and there are no cardiac murmurs now since about four years. Had he not adopted the radical treatment, the heart would soon have been incapacitated.

Case II.—A young physician had a noisy and discordant murmur over the pulmonary area, extending up toward the left shoulder. He was strong and active, capable of athletic exercise. He was in no way incapacitated, but he gave a history of chest inflammation in his childhood, but from which he had entirely recovered.

The only explanation that can be given of this case is that there was condensed lung attached to the pericardium and also to the chest-wall. The conduction of the natural sounds into the chest-wall is a murmur, and creates an artificial area.

The pericardial sac may be attached to the lung behind, and the lung to the chest-wall, restraining in a degree the movement both of the heart and the lungs, producing interrupted or cog-wheel respiration. The heart moves two or three times during an inspiration, each time making tense the adhesion, and divides the inspiratory murmur. By careful attention, fine râles may be heard at each arrest of the inspiratory movement by sudden tension of the pericardiac adhesion to the lungs caused by the heart's motion. When these adhesions are more extensive, they restrain the impulse beat, which becomes feeble in consequence. Many cases of supposed fatty degeneration are owing to this cause alone. The adhesions may be so extensive as to withdraw the heart entirely from the chest-wall, and the impulse beat will be lost.

Case III.—A laboring man was crushed under a falling bank of earth. When he finally left hospital he had hernia, for which he came to the dispensary. In auscultating him, it was found that there was no impulse or apex beat, and no first or second sound. There was obstructive and regurgitant aortic murmur—nothing else—and the heart was beating about forty times in a minute. The man died, and we failed to get an autopsy, but I have no doubt that, could we have had one, we would have found extensive adhesions binding the pericardium and lungs to the posterior chest-wall, and that adhesions of the chordæ tendineæ and mitral valve prevented the first sound, and the destruction of the aortic valves prevented the second sound, and gave the obstructive and regurgitant aortic murmurs.

An artificial area in the left side, over the eighth to the tenth ribs behind, is created if the lung becomes necrotic and a cavity forms. The heart's movement displaces fluid in the cavity backward and forward, producing a slushing rhythmic sound. Such a case I have seen and heard. No doubt, before the consolidated lung broke down and formed the cavity, the heart in its movement struck the consolidated lung and would have given an impulse beat in the area of the cavity. A case occurred like that a few years ago on the right side of the spine; there was a distinct shock or apex beat which lasted until the lung broke down and a cavity formed, but without fluid, and consequently not accompanied by the slushing sound of rhythmical displacement.

The acoustic character of the chest may be altered or lost through deformities of the chest by contractions or diseases of the bones, or by tumors or consolidations within, or by effusions of fluids. This is sometimes illustrated in the following manner: An aortic regurgitant murmur, having existed under observation a long time, suddenly becomes almost or entirely obscured. The rhythm of the heart's action is not restored. Whatever has occurred has simply been to alter or destroy the acoustic quality of the sound-chamber. It is generally found to be effusion of fluid in the pleural cavity or the occurrence of subacute pneumonia. Either will so alter the acoustic conditions that feeble or soft murmurs of the heart will disappear. The heart's increasing size thus itself renders the certain diagnosis of its pathological state more difficult to determine.

Could we, when we wish to examine the heart, remove it from its acoustic case and enveloping non-sound-conducting lung, we could examine its action with more certainty of conclusion. But, as we must make our diagnosis under all these difficulties, we must apply the laws of sound, which are unvarying. Areas over the chest, both natural and artificial or false, will help us to do this as we study them acoustically. The popularization of the telephone and the phonograph leads to practical acoustics. It can no longer be said that acoustics is well enough as a science, but is not valuable in physical diagnosis. It must revolutionize much of the teaching of the schools and render many of the text-books useless, which is not to be regretted, because it will give us greater accuracy in diagnosis, the first step toward greater success in treatment.

EXTRA-PERITONEAL RUPTURE OF THE URINARY BLADDER.*

By C. K. BRIDDON, M. D.

During my last service in the Presbyterian Hospital in the city of New York the two following complicated cases of rupture of the bladder came under observation:

Case I.—Reported by Dr. F. W. Shaw. The patient, a man thirty-three years of age, was admitted September 3d, at 4 P. M.; he had been engaged with several others carrying a stone weighing sixteen hundred pounds, when he had fallen accidentally, striking his right hip upon the ground; his companions losing control of the stone, it had fallen upon the left side of his pelvis. When seen by the ambulance surgeon, he was in a condition of very pronounced shock; there was a slight amount of blood oozing from the meatus urinarius. Examined one hour and a half after the accident, it was ascertained from the patient that he had emptied his bladder three hours before he was injured; there was a contusion of the right hip posteriorly, and an abrasion on the left; there was some dullness and fullness in the right inguinal region; he complained of pain and tenderness over the sacro-iliac junction and over the pubes. It was thought, when pressure was made over both ilia, that the right could be appreciably approximated to the median line. The introduction of a soft gum catheter gave exit to one ounce and a half of bloody fluid. A little later a silver catheter was introduced into the bladder; it was noted that its point did not rotate so freely as it should, and it gave exit to one ounce of the same kind of fluid.

An operation was performed by Dr. Briddon four hours and a half after the accident. Strict antiseptic precautions were used, the pubes and perinæum were shaved, scrubbed, irrigated with a solution of the bichloride of mercury, and then wiped over with an ethereal solution of iodoform. When the patient was under the influence of ether, an incision three inches long was made in the median line immediately above the pubes. When the subperitoneal fascia was exposed, its meshes were found infiltrated with blood, and on separating this with fingers and forceps, a large cavity was opened in the prevesical space; it was occupied by a considerable amount of bloody fluid that separated the anterior wall of the flaccid bladder from the posterior surface of the pubes. There was found an oblique fracture of the descending ramus of the left os pubis, and a second fracture through the body of the right pubic bone; the bones were locked immovably, and their altered relations could not be restored; some small detached fragments were removed. The muscular and aponeurotic structures connected with the rami were torn, and there was considerable oozing of blood; there was no wound of the peritonæum. After careful and prolonged sponging and the use of large retractors, it was possible to detect a long linear slit, commencing in the upper and outer wall of the prostatic urethra, and passing up into the anterior wall of the bladder; it was estimated to be about one inch and a half in length. With some difficulty a silver catheter was introduced through the urethra and into the bladder, and was secured in position; a large rubber drainage-tube was placed in the lower end of the abdominal incision, its point in contact with the laceration, and the remainder of the cavity was filled lightly with iodoform gauze. The patient was then placed in bed, and surrounded with hot bottles. Temperature, three hours after operation, 101° F.; reaction favorable.

September 4th.—Temperature, 100°. Considerable discharge through the gauze packing, which acts as an admirable drain. Several ounces of urine passed through the catheter, amber in color, acid and slightly albuminous, and contained granular and hyaline casts.

5th.—Temperature, 99°. General condition good; takes enough Magendie's solution to control what slight pain there is, and lithia-water for a drink.

8th.—Wounds dressed by Dr. Briddon. The silver catheter was removed and replaced by a rubber one; the prevesical wound was irrigated and filled with fresh gauze.

15th.—No bad symptoms have presented; his general condition has steadily improved, but during the night the catheter failed to drain, and the urine overflowed through the wound above the pubes. On removing the catheter, its lumen was found closed with calcareous deposits; it was determined to use the instrument only when a desire for urination existed.

23d.—The bladder will now hold several ounces of urine, but unless the catheter is used frequently it will come through the wound; he complains a good deal of pain in the penis, and especially in the corona.

October 6th.—A small piece of semi-detached bone was removed from the right os pubis.

19th.—Two thirds of the urine now passes through the urethra, the remainder through the abdominal wound. There is some irregularity or distortion in that portion of the urethra immediately anterior to the neck of the bladder, and it is deemed proper to introduce a conical sound every few days. The amount of urine passing through the wound gradually diminished, and finally ceased. He was discharged from the hospital in the last week in November; a small fistulous tract leading from the lower end of the supra-pubic incision downward and backward about three inches, which will probably require a counter-opening in the perinæum.

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* Read before the New York Surgical Society, April 13, 1887.

I present this patient for your examination to-night, seven months since the accident occurred. There is a small sinus at the lower end of the abdominal incision that has not discharged anything for the past week. He was advised to pass a large-sized sound occasionally to counteract a disposition to lateral deviation of the infra-pubic urethra, caused by displacement of the pubic arch, and 29 F. passes with ease. He has had no erection since the accident, and I am not surprised, for the damage done to the soft structures was very great, and has probably implicated the nerve supply.

CASE II.—Reported by Dr. A. E. Hooker. Patient aged forty-two years, native of Ireland, married, engine-wiper, a man of large frame and marked muscular development; good previous history, except an addiction to moderate indulgence in alcohol. He was cleaning a locomotive on the elevated railroad when another engine was backed down, the buffer of the moving engine striking him on his right hip and throwing him into violent contact with the buffer of his own engine, which struck him upon the abdomen. He had emptied his bowels and bladder half an hour before the accident. When seen by the ambulance surgeon, December 2, 1886, almost immediately after the accident, and on one of the coldest nights of the season, the patient was suffering from shock and complaining especially of pain in the right hip. As it was impossible to make a thorough examination where he was, he was at once transported to the hospital, where he arrived at 10.10 P. M. On admission, his condition had improved under the influence of stimulants; there were found abrasions over both ilia, and there was pain referred to the right hip joint and increased by movements imparted to the limb of that side. There were no signs of fracture of the cervix. He experienced a desire to urinate, but was unable to do so. A soft rubber catheter passed in between nine and ten inches, when, after slight resistance, it entered a cavity and gave exit to three ounces and a half of dark, bloody fluid. Some hypogastric distress he had complained of was relieved by this. On percussing the abdomen, a somewhat triangular area of dullness was made out, situated to the right of the median line, its base corresponding to Poupart's ligament. Shortly after this examination, the patient again complaining of pain, the catheter was passed, and less than one ounce of bloody fluid came away; withdrawing the catheter slowly, a point was reached where the dropping ceased, and, on again withdrawing until the eye of the instrument was nine inches and a half from the meatus, there was again a discharge, drop by drop.

An operation was performed at 2.30 A. M. by Dr. Briddon; the night was bitterly cold, and it was found impossible to make the temperature of the theatre comfortable to those who were warmly clad; the patient was, however, well covered with blankets, except in the parts to be operated upon. He had been prepared by scrubbing, washing, antiseptic irrigation, and the local application of ethereal solution of iodoform, and was under the influence of an anæsthetic. A staff was introduced without any difficulty into the bladder, but did not rotate as in the normal condition. Perineal section was made, and when the knife entered the bladder a gush of bloody fluid escaped; the finger was then passed in, but the depth of the perinæum prevented more than the distal phalanx entering, and it was found impossible to thoroughly explore the cavity of the bladder. A Thompson's rubber lithotomy-tube was introduced and secured in position. The patient's posture was now changed to admit of supra-pubic section; an incision was made from a point four inches above down to the symphysis pubis. When the subperitoneal layer was exposed it bulged into the wound, its meshes infiltrated with blood. On tearing this apart, a large cavity was opened, bounded below by the posterior surface of the pubes, above by the parietal peritonæum. The contour of the intestinal coils could be seen through the serous tunic, and a suspicious appearance was noticed in the color of the peritonæum; it was purplish blue, significant of blood within; there was no time, however, for exploration, nor was it considered proper to make the attempt in so cold a room. Attention was then directed to the prevesical space; the cavity opened into was filled with blood coagula and fluid; there was a fracture, with some displacement, one inch distant from the symphysis. After diligent sponging and the use of retractors the point of the rubber tube introduced through the perinæum was found lying at the bottom of the cavity and in the neck of the bladder, which lay contracted about the instrument. With some difficulty it was found that there was a rent in the anterior wall, and by the use of tenacula it was made out to be vertical in direction and quite extensive. There was no wound of the peritonæum. A second Thompson's rubber tube was introduced through the abdominal wound down to and into the rent, and it was packed around with iodoform gauze. The patient was then removed from the operating-table to his bed; small, long rubber tubes were connected with the large supra-pubic and perineal tubes, and conveyed the secretions to vessels beneath the bed.

December 3d.—Reaction favorable, general condition good, but slight complaint of pain. There has been considerable flow of bloody fluid by the perineal tube.

4th.—Patient has complained much of thirst. Fluid slightly tinged with blood is discharged through the tube in about the proper quantity; acid in reaction; sp. gr., 1·028; contains 50 per cent. albumin, some pus, and epithelial cells. Wound cavities are irrigated three times a day with warm boro-salicylic solution. In the evening his temperature rose to 101°. Complained much of pain referred to the penis; moderate tympanites; considerable annoyance from eructations of gas. Small doses of morphine were given—only sufficient to allay pain.

6th.—The temperature reached 102° at 8 P. M., the tampons were removed from the supra-pubic incision, and continuous irrigation was instituted.

7th.—Patient was delirious through the night. His temperature rose to 103°, then fell to 98°; it then began to rise steadily until it touched 106° shortly before his death, at 4 P. M. on December 8th.

It was considered very desirable to have an autopsy, but circumstances which could not be controlled by the staff interfered to prevent. It is extremely doubtful if he died from the effects of the rupture of the bladder, as the drainage was perfect, and there was an entire absence of sepsis in the wounds communicating with the same. The symptoms preceding death indicated blood-poisoning, but there were sufficient grounds to regard it as more than probable that there were undiscovered lesions within the cavity of the unbroken peritonæum to which it might be due. It will be remembered that it was noted during the operation that the color of the exposed peritonæum was bluish, such as would be caused by the presence of blood within its cavity, but as the operation was being done in an extremely cold room, and the indications were for its rapid execution, it was not deemed proper to prolong it by further exploration, but I have no doubt there were lesions in the abdominal cavity that were not recognized during life.

Simple extra-peritoneal ruptures of the urinary bladder are generally caused by overdistension, due to obstruction in the urethra, either prostatic or from stricture. Factors aiding or predisposing to such accidents may be various pathological changes, ulcerations, tubercular or malignant, tunicary hernia, or in fact any other conditions that diminish the resistance of the walls. When, under circumstances such as those above referred to, the organ is in a state of repletion, its rupture only requires a very small amount of violence in the shape of concussion, as in lighting on the feet when falling, in injuries applied directly, as from impact with moving bodies, or in the not uncommon instances where rupture has been determined by contraction of accessory muscles in efforts to empty the distended organ.

In the cases which more directly concern us as present—those complicated with lesion of the bones entering into the composition of the pelvis—distension predisposes to rupture, but it may occur when the bladder is nearly empty, as in our second case, in which the patient distinctly asserted that he had emptied his bowels and his bladder half an hour before the accident occurred. And yet in his case—when the operation was done in less than four hours after the accident and before he had recovered from the effects of shock, a condition in which very little urine is secreted—there was an escape of quite a quantity of bloody fluid when the perineal section was completed. In the first case it was presumed that the bladder was moderately distended, as the rupture occurred between three and four hours after urination.

The symptoms of rupture in the uncomplicated cases will vary extremely. Generally something is felt to give way, either after the application of violence or in the attempts to empty the bladder. This is generally followed by hypogastric pain and pronounced symptoms of shock, though in a number of recorded cases it is stated that the patients walked considerable distances to their homes or to the institutions in which they were treated. It not infrequently happens that the cases are obscured by the accident occurring when the patient is under the toxic influence of alcohol. In such, on recovering from his debauch, complaint will be made of pelvic pain, and of the tormenting desire and inability to urinate. The condition will be determined by physical exploration, by percussion of the abdomen, digital examination through the rectum, bimanual palpation, the introduction of soft and metallic catheters—the former to determine whether the organ is empty or not; the latter may reveal nothing in the bladder, but it will probably be found that its movements are restricted. It may be possible, in some cases, to insinuate the point of the instrument into and through the rent, thus giving exit to urine that had escaped into the cavity of the peritonæum, or into the space of Retzius, the prevesical space. If the rent is in the posterior wall, this manœuvre will be best made by using a short-beaked instrument, such as the searcher of Sir Henry Thompson, which may be reversed when in the bladder. When the rent is in the anterior wall, it will be best accomplished by using a silver catheter with a large curve, and directing its point to the anterior wall of the bladder by depressing the handle of the instrument between the patient's thighs.

A distinguished member of this society brought a method of early diagnosticating intra-peritoneal ruptures of the bladder before the profession,* in which he advocated injecting the bladder with an antiseptic fluid. It has struck me that there are two objections to this procedure: First, that in the event of there being a rupture, it would diffuse the already extravasated fluid over a still larger surface; secondly, that it does not give reliable evidence of an intact bladder, inasmuch as there are several cases on record of intra-peritoneal ruptures in which there was a fluctuating tumor in the hypogastric region resembling the distended bladder, and in some of these cases the size of the tumor was diminished by successful catheterism. The escape of a quantity of fluid equal to that injected would be more positive evidence.

In the cases of rupture complicated with fracture of the bones entering into the composition of the pelvis there is generally an assemblage of symptoms which make the diagnosis comparatively easy. The accidents are the result of extreme violence; the patient is in a condition of more or less profound shock, and when he begins to come out of this his principal complaint will be of a desire and an inability to pass water. The introduction of a catheter will give exit to a small quantity of bloody urine. Further evidence can only be obtained either by waiting, to the great detriment of the patient, or by the prompt institution of explorative incisions, which can be utilized for drainage if rupture is found to exist. The treatment resolves itself into that for extravasation; and the anatomical fact that there is no barrier to the extension of infiltration external or internal to the peritonæum is a strong additional reason why the interference should be prompt and efficient.

My impression is, that it is best first to make a perineal section sufficiently free to permit of digital exploration of the bladder; that this should be supplemented by a suprapubic incision, carefully made, to open into the prevesical space, avoiding the peritonæum, unless it should be found involved. In these incisions I would arrange drainage-tubes of large caliber, so that their ends should meet in the cavity of the bladder, the upper tube being surrounded by a light tamponade of iodoform gauze, which is itself an excellent capillary drain.

A CONTRIBUTION TO ANTHROPOMETRY.

By F. J. B. CORDEIRO, M. D.,
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The curve of growth, wherever it has been taken from a sufficiently large number of observations, such as the tables of Roberts in England and of Bowditch in Boston, demonstrates unequivocally what is a general law for the human race, and probably for all growth, animate and inanimate, viz.: that the increments of height steadily decrease from birth until a short period before puberty, at which time they suddenly increase; and again, on arriving at puberty, gradually decrease until the maximum height is attained, after which there is a gradual falling off. Thus the primary germinative impulse of the fecundated ovum steadily exhausts itself until, a little before puberty, the increments of growth increase for a short time. This remarkable period is clearly the finishing stroke in the elaboration of the being.

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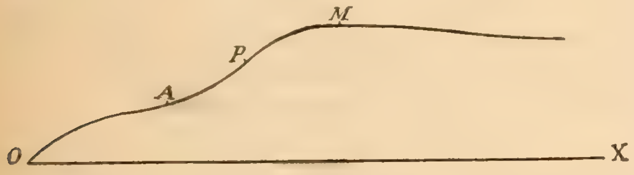
* "On a Satisfactory Method of Early Diagnosing an Intra-peritoneal Rupture of the Bladder." By Robert F. Weir, M. D. "Medical Record," January 22, 1887.

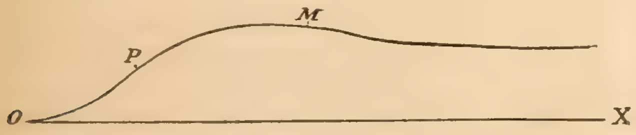
Precisely on the attainment of puberty the rate of growth, as at the stroke of a bell, changes from an increasing to a diminishing value. The maximum value is then approached, and afterward receded from, by diminishing steps.

Thus arranging the ages as abscissæ and the heights as ordinates, we derive a height curve possessing the following characteristics:



In the figure above—diagrammatic—the point O corresponds to the impregnated ovum, the point A to the period anteceding puberty, the point P to puberty, and the point M to the attainment of the maximum length. It will be noted that the points A P are points of inflexion in the curve.

The curve of weights presents the following general characteristics: The period O P, from the ovum to puberty, is convex to the axis of X, the portion P M, from puberty to maximum weight, being concave. There is afterward the same slight dropping, as in the curve of heights, corresponding to the period of physiological decay. Thus up to the period of puberty the increments of the weights show a regular increase, after which there is a decrease. There is but one point of inflexion, P, in this curve.



In studying the growth of all living things these curves must form the basis, of which curves A P and M are the cardinal points. For the Anglo-American races we have the following data: In the curve of heights, the point A corresponds for boys to the age of twelve to thirteen; for girls to the age eleven to twelve. The point P corresponds for boys to the age sixteen to seventeen years; for girls to the age fourteen to fifteen years. The point M for men corresponds to the age thirty-one to thirty-four.

In the curve of weights, the point P corresponds, as in the curve of heights, to the ages sixteen to seventeen for boys, and fourteen to fifteen for girls. The point M corresponds also with the age thirty-one to thirty-four. It will thus be seen that the years thirty-one to thirty-four are the acme of a man's life.

The point P in these curves gives probably the most accurate determination of the age of puberty, and for boys furnishes us with the only reliable criterion. In the cases of girls, of course, an additional means is furnished by the beginning of menstruation.

Our present knowledge of these curves is in many ways uncertain and conflicting. Different writers who have studied the subject have drawn various conclusions, with more or less plausibility. Bowditch's tables show with great probability that the comforts of life have a marked effect during the growing period of life, a result which is also borne out by Roberts in England. The conclusion is permissible that at the age of five and at the age of twenty, children of all classes of society—race and climate not being considered—are of the same height and weight, whereas for all intermediate ages the advantage lies with the upper classes. Thus the effect of comforts is to make the child taller and heavier than the child brought up under privations; but this superiority is not permanent, being limited to the growing period. Consideration will show that this could not be otherwise, the single point of value being that, though privation may retard, it does not permanently affect development. Villermé and Dr. Gould are of the opinion that privation and exposure prevent the attainment of the normal height. Dr. Gould regarded the fact that a number of United States sailors were shorter than a number of soldiers warranted this conclusion, but in fact the opposite conclusion, though equally unwarrantable, might more justly have been drawn, since it is an open question whether a sailor in the national service does not enjoy more of the comforts of life than a soldier. Again, sailors are mostly foreigners, so that the comparison is untrustworthy, since it involves the important factor of race. A few Indians in New York were found to average taller than a number of the native whites of the section, which shows nothing, but could be used as an argument that privation increases the height as plausibly as Dr. Gould's argument from the sailors that privation stunts.*

Dr. Gould also thinks that the stature varies in different sections of the United States, and that children of natives of one section undergo a change in stature on removing to another section. All this is extremely improbable, as, the general comfort of the inhabitants having nothing to do with the stature, it is difficult to suppose that there are any such marked conditions in our climate as to impress themselves upon the stature in different sections.

Boudin concluded that stature is to a great extent independent of comfort or misery, and is, on the contrary, closely connected with race. The tables of Bowditch and Roberts also bear this out, so that it is reasonable to conclude that privation has no effect on the ultimate stature. The researches of Boudin and Dr. Gould show with much probability that stature is closely connected with race and heredity—a conclusion which we may safely adopt.

Dr. Baxter and Dr. Gould, from the records preserved at the Provost-Marshal General's office, have inferred that natives of the United States are taller than those of any other country; also that natives of foreign countries enlisting in the United States have a greater average height than natives of the same country enlisting at home—both being conclusions which are to be doubted.

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* For a criterion by which to compare averages, see a paper by the writer, "Boston Med. and Surg. Journal," Aug. 21, 1884.

The data at the disposal of Dr. Baxter and Dr. Gould have many sources of error. The heights are often taken in even inches, and, being taken by a great number of independent and often inexperienced observers, contain, without doubt, many gross errors. The ages also are very uncertain.

Further, these errors are not of the nature of self-corrective ones, being necessarily always in excess of the true value, so that, though a large number of observations may be taken, carelessness increases the average result by as large an amount as in a smaller number. However, if they have not a positive they possess a comparative value, and Dr. Gould's curves show quite conclusively that the maximum stature is attained between the ages thirty-one and thirty-four.

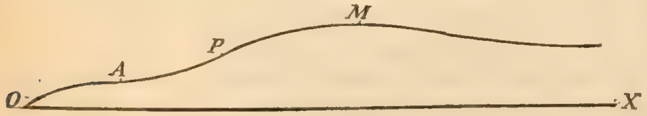
Measurements of heights with shoes or stockings, or weights taken with the clothes, lose much of their value as scientific observations. Heights should be taken with the feet bare by an experienced observer. Another great source of error is fewness of observations. The limits of excess and deficit of the average are so large in such observations as heights that a very large number must be taken to avoid an appreciable error. Not fewer than one thousand observations should merit our confidence.

For this reason Quetelet's curves are valueless, as is shown by their lack of conformity with the normal curve. Quetelet admits that they were derived from a number of observations "*peu considérable.*" Cowell's tables, taken from factory children at Manchester and Stockport, England, are for a like reason absolutely valueless. Bowditch's figures for certain ages are untrustworthy. Averages taken from thirty, sixty, or one hundred observations are liable to err by wide limits. Numerous observers favor error. In fact, Dr. Bowditch says: "Many cases were met with of heights and weights differing so widely from the average measurements of the age to which they belonged as to excite suspicion of error in the observation." This is borne out by the irregularity in some of his curves.

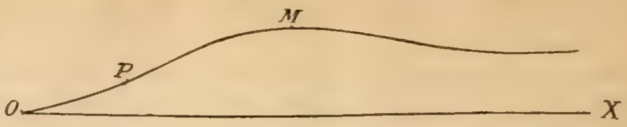
Although we have no evidence that climate affects the ultimate stature, still there is reason to believe that it is an important factor of the growth curve.

The points A P and M are closely connected with climate. Unfortunately, accurate measurements in different parts of the world are so few that we can not draw positive conclusions respecting the effect of race on the positions of these points. It is probable, however, that they are simply functions of the climate.

We can conclude, then, that the normal curve of lengths for all living things is of the following nature:*



That the normal curve of weights for all living things is as follows:

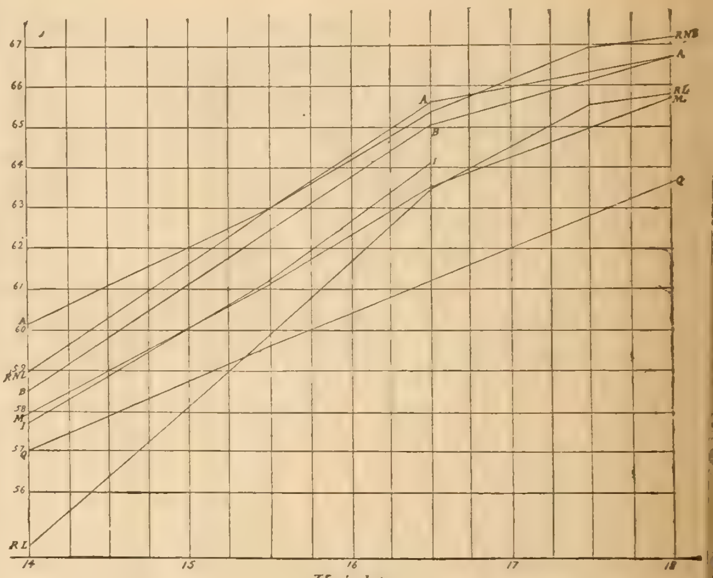


That these curves are depressed during the growing period under the influence of privation, but not permanently.

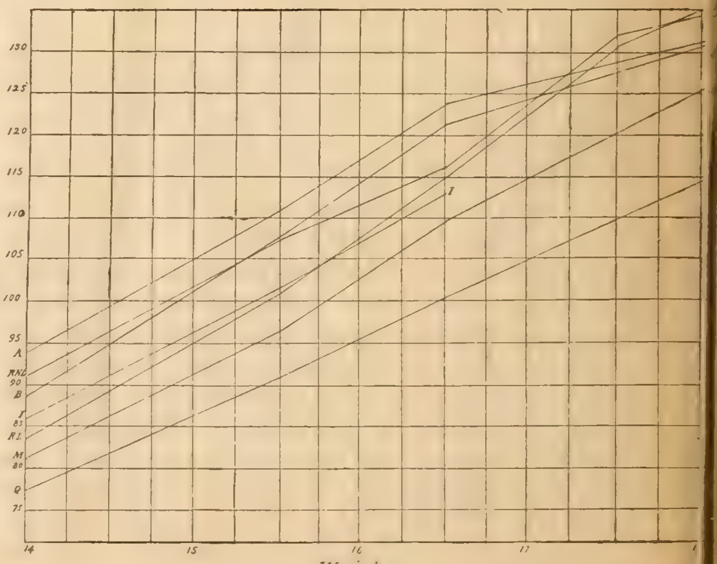
That the points A P M are not influenced by privation. This is interesting as being opposed to the popular opinion that puberty is sooner attained under the influences of luxury.

That the points A P M are simple functions of the climate.

That the ultimate stature is a function simply of race and heredity, as well as the ultimate weight. [Privation may effect a temporary deviation from the normal in matter of weight, as in the case of clay-eaters, but this probably quickly vanishes where the normal conditions are re-established.]



Heights.



Weights.

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* No attempt has been made to impress upon the very beginning of the curve its intra-uterine character.

The functions height and weight are naturally, in all symmetrical development, closely connected with each other, the latter varying as the 2·7 power of the former during the growing period and as the square afterward.

Appended is a study of the growth curve between the ages fourteen and eighteen. The curve marked M was derived from over five thousand observations taken from candidates for the naval service on board the U. S. steamer Minnesota. While mostly of the poorer classes, there were numerous exceptions. As to nationality, the American prevailed, with a large proportion of Irish and Germans. There was a small proportion of country boys.

These observations are larger, and probably taken under more favorable conditions, than any others on record. They were all taken by the same instruments in the same room, by a few experienced observers, from the nude subject. The inches were taken to the nearest eighth, and the pounds to the nearest quarter. A comparison is made with Bowditch's measurements and those of Roberts and Quetelet. Bowditch's and Roberts's weights were taken in "ordinary clothes," the heights probably with stockings.

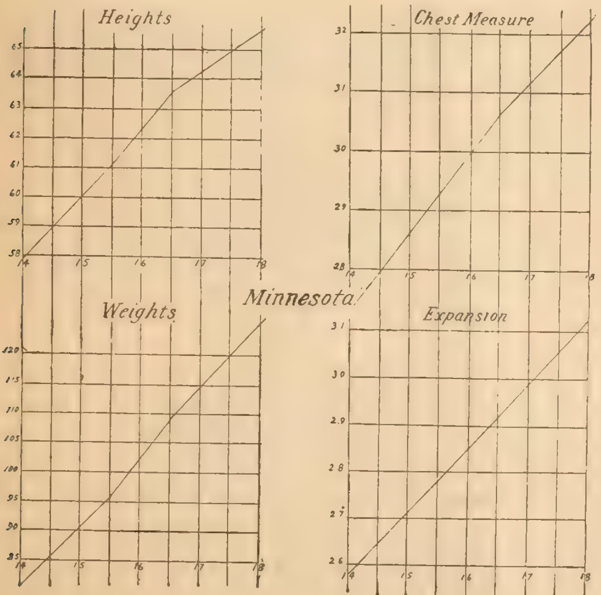
Quetelet's curves, though possessing none of the characteristics of the growth curve and differing widely from the others, are given merely from the interest attaching to their being a pioneer in this line of investigation.

The irregularities in the other curves are to be attributed to the small number of observations, and, in the case of Roberts's curves, undoubtedly also to errors of observation. It is to be remembered that there is a probable error of excess in all the height curves except M, for reasons previously given.

The curve B represents Bowditch's measurements of Boston school-children. The curve A is Bowditch's determination for American school-children in Boston. The curve I is his determination for Irish school-children in Boston.

The curve R L is Roberts's laboring class, and the curve R N L is his non-laboring class. Q is Quetelet's curve.

Appended are four curves, representing the height, weight, mean chest circumference, and expansion taken on the Minnesota. The mean chest circumference was taken at the level of the nipples, and follows closely the law of heights and weights. The increments of the expansions increase regularly between the ages considered. The accompanying tables are:



For Heights.

AGES.	Number of observations.	Average.	Maximum.	Minimum.
14 to 15..........	1,040	59·00	67	51¾
15 to 16..........	1,423	61·10	69⅛	51¼
16 to 17..........	1,479	63·46	71	55½
17 to 18..........	1,459	64·94	73	58⅝

For Weights.

AGES.	Number of observations.	Average.	Maximum.	Minimum.
14 to 15..........	843	86·11	145	60
15 to 16..........	1,137	96·34	166	60
16 to 17..........	1,417	109·55	165	70
17 to 18..........	1,415	120·15	195	78

For Chest Measure.

AGES.	Number of observations.	Average.	Maximum.	Minimum.
14 to 15..........	675	27·92	34½	24½
15 to 16..........	895	29·27	34½	24½
16 to 17..........	1,197	30·63	36¾	25¾
17 to 18..........	1,137	31·69	37¾	27

For Expansion.

AGES.	Number of observations.	Average.	Maximum.	Minimum.
14 to 15..........	669	2·641	4½	1
15 to 16..........	891	2·776	4¾	1
16 to 17..........	1,195	2·915	5	1¼
17 to 18..........	1,337	3·059	6	1

TYPHOID FEVER:

STATISTICS OF FORTY-FIVE CASES SEEN AT THE ROOSEVELT HOSPITAL.

By LOUIS ASTA-BURUAGA, M. D.

During a period of six months, from the 1st of June to the 1st of December, 1886, forty-six patients suffering from typhoid fever were admitted to the wards of the Roosevelt Hospital. Of these, two patients were discharged at their own request, after the diagnosis was made, and are not included in the reports. On the other hand, one patient was readmitted to hospital, and although, strictly speaking, he was then suffering from a relapse, I have considered it proper to enter his case as two separate cases. The following statistics are thus based upon forty-five cases of typhoid fever.

Sex.—Of these forty-five patients, thirty-three were males and twelve females.

Age.—Over three fourths of the cases were in patients under thirty years of age, as the appended table shows:

TABLE I.

	No. of cases.
Between 15 and 20 years of age	13
" 20 " 25 " " "	12
" 25 " 30 " " "	10
" 30 " 35 " " "	5
" 35 " 40 " " "	3
" 40 " 45 " " "	2

Civil Condition.—Only three of the patients were married; the remaining forty-two were single.

Month in which admitted:

TABLE II.

	No. of cases.		No. of cases.
June	2	September	13
July	0	October	8
August	12	November	10

Nationality:

TABLE III.

	No. of cases.		No. of cases
United States	14	England	3
Ireland	14	Switzerland	1
Germany	9	Nova Scotia	1
Sweden	3		

Residence.—Most of the patients were residents of the western district of the city, in the neighborhood of the twentieth and twenty-second precincts. Two of them were brought from the same house. One patient came from Saratoga. Another developed the fever while an inmate of the Woman's Hospital. Two were admitted to hospital, the one suffering from rheumatism, and the other from obscure spinal affection, without manifesting any signs of typhoid fever. Nineteen days after admission, the rheumatic case developed a chill, and subsequently symptoms of fever, which ran a fairly severe course of twenty days. At one time the thermometer registered 104° F. During the time that the fever lasted the following phenomena were noticed: Prostration, headache, anorexia, vomiting, iliac gurgle, diarrhœa, dry and tremulous tongue, semi-stupor alternating with delirium, muscular tremors, and rose-spots on the seventh day. Twenty days after admission the spinal case had a chill, followed by a febrile movement, headache, anorexia, prostration, cough with muco-purulent expectoration, tremulousness, delirium alternating with stupor, iliac gurgle, and dry, brown tongue. An erythematous eruption, looking like lichen tropicus, masked any rose-red spots that might have been present. The temperature rose as high as 104° F., and it did not entirely subside until about the twenty-fourth day. At the time that these two cases developed in the hospital there were about sixteen typhoid fever patients in the male ward. A night orderly who attended to these patients, and who left the hospital about the middle of September, was seized with the fever about twelve days later.

Occupation.—A variety of occupations was recorded. The largest number of cases occurred in domestics and laborers.

Duration of Illness Prior to Admission.—The average time that the patients were ill before admission was 10·88 days.

Mortality.—Four out of the forty-five patients died, making a mortality of 8·88 per cent. Three of these were males. The causes of death, so far as known, were in one case peritonitis and collapse; in another, meningitis; in another, pyæmia; and in another, intensity of the poison and exhaustion.

CHART I.

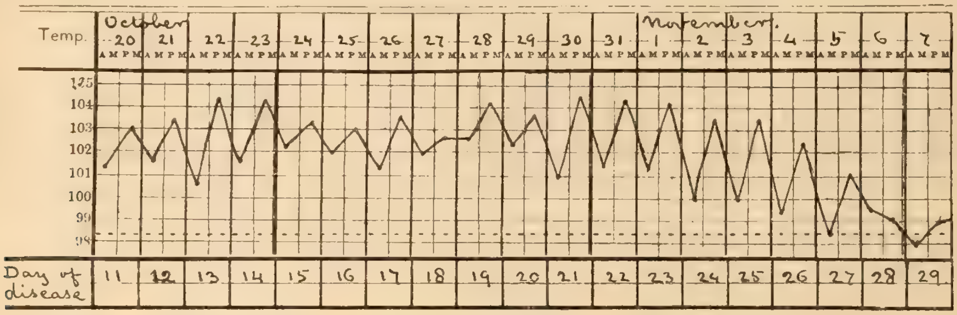
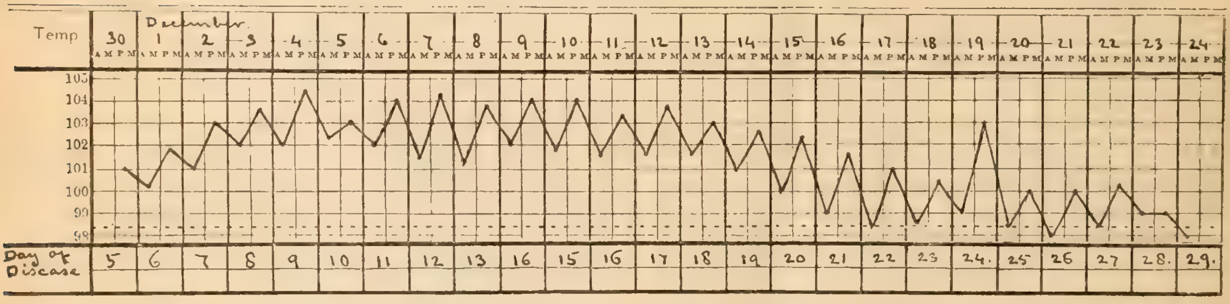


CHART II.



*Course of the Fever.**—The curve of the temperature was the typical one of typhoid fever in a number of cases.

The longest run of uninterrupted fever was of fifty-three days. The shortest, exclusive of fatal cases, was of fourteen days; but this happened in the case of the patient who was readmitted, and, truly speaking, was a relapse. The next shortest course of fever was of seventeen days.

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* All the temperatures were taken in the rectum.

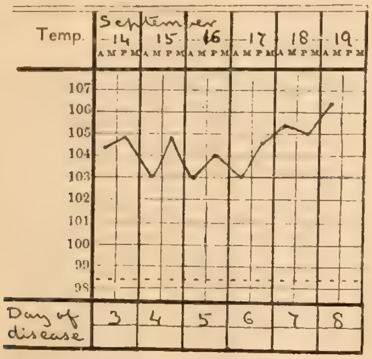
Of the fatal cases, one ended in death on the 29th (peritonitis), another on the 26th (pyæmia), another on the 12th (exhaustion), and another on the eighth day of the fever (meningitis). The following table shows the duration of the fever, irrespective of relapses, in the different cases:

Table IV.

	No. of cases.
From 8 to 14 days	3
" 15 " 21 "	7
" 22 " 28 "	20
" 29 " 35 "	12
Over 35 days	3

The average duration of the fever of all cases while in hospital, exclusive of relapses, was 16·4 days, and that of the total fever was 27·28 days.

Chart III.



Among the cases that ended in recovery, the highest temperature recorded was, in the evening, 106·4° F., and in the morning, 105·4° F. In one case, which proved fatal from meningitis, the temperature reached 106·4° F. in the morning, just before death.

Chart V.

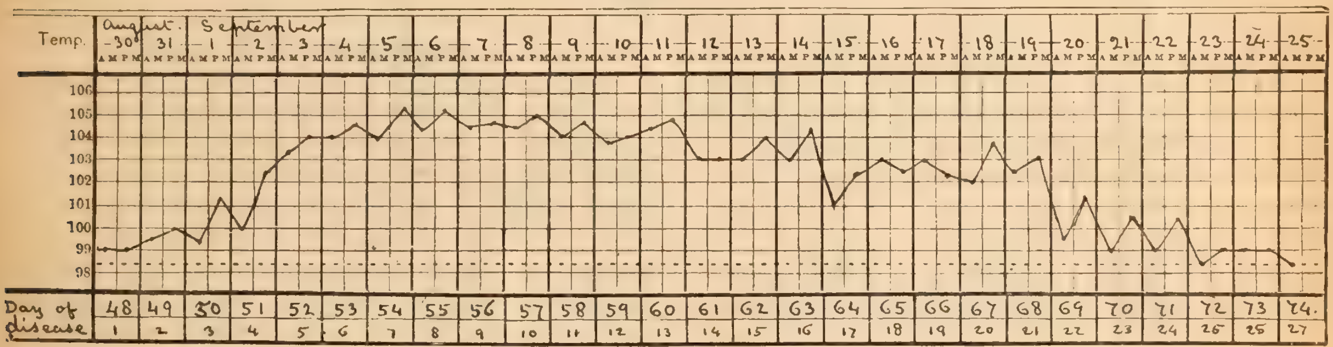
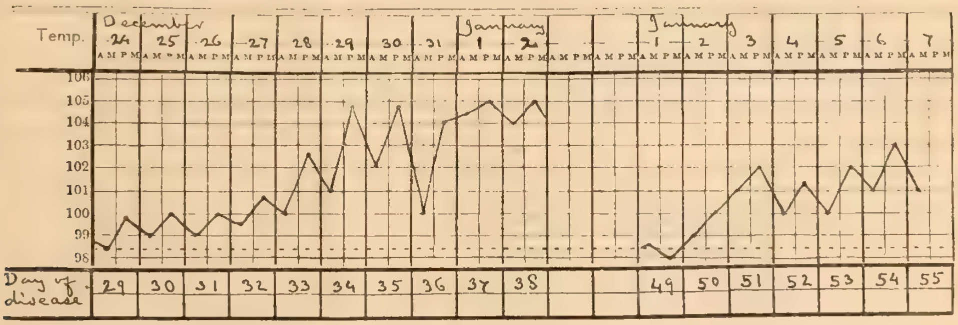
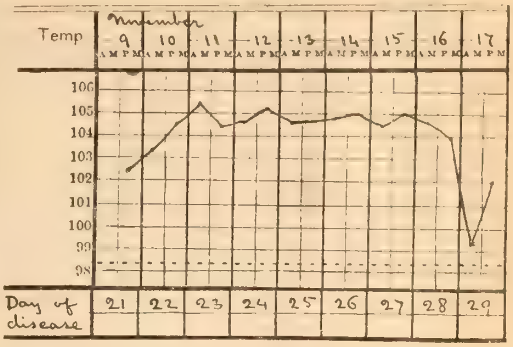


Chart VI.



Another continued to have a temperature in the neighborhood of 105° F. for a whole week, in spite of antipyretics, and then suddenly the temperature fell to 99·4°; the patient went into collapse, and died. A mild degree of peritonitis was found at the autopsy, but no intestinal hæmorrhage or perforation, although the ulcers had eaten down as far as the peritoneal coat of the intestines.

Chart IV.



The following table gives an idea of the point reached by the temperature in the different cases:

Table V.

	No. of cases.
Above 102°, but not exceeding 103° F.	1
" 103°, " " " 104° F.	12
" 104°, " " " 105° F.	15
" 105°, " " " 106° F.	15
" 106°, " " " 107° F.	2

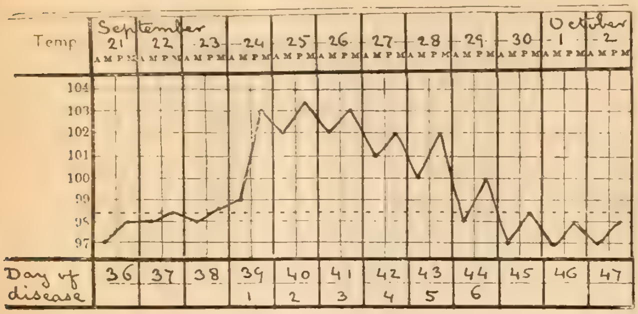
In all cases, except two, the temperature reached a higher point in the evening than in the morning.

Febrile Relapses occurred in fourteen cases. In a few, the relapse was distinctly traced to some indiscretion in diet. The longest relapse was of twenty-six days', the next longest of twenty days', and the shortest of three days' duration. In some cases the temperature went up by lysis. (*Charts V, VI.*)

In other cases the temperature went up suddenly. (*Charts VII, VIII.*)

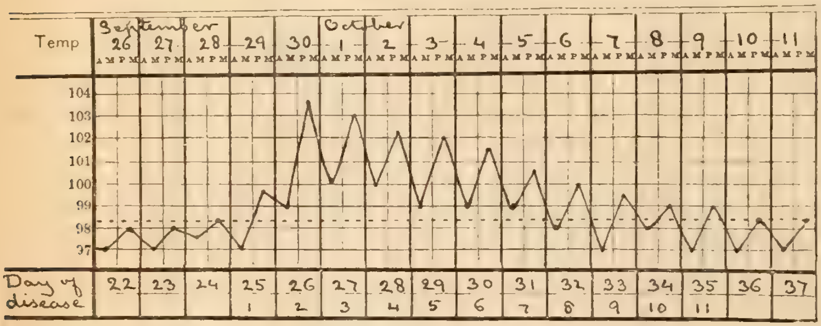
In two cases there were two relapses. In four, the temperature reached a higher point during the relapse than during the regular fever. In one case (*Chart V*) the temperature reached 105·3° F. All cases that relapsed ended in recovery.

CHART VII.



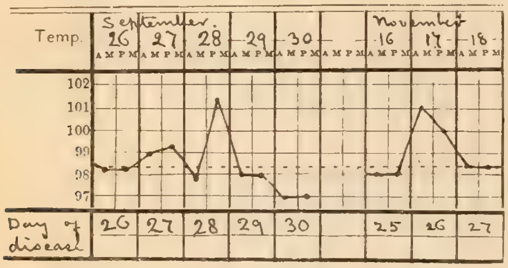
Febrile Exacerbations.—Transitory rises of temperature after defervescence occurred in eight of the cases. In one case the temperature reached 101·4° F. As a rule, the exacerbations were not higher than 101° F.

CHART VIII.



In four of the cases the cause of the sudden elevation of temperature was some error in diet, and in one case it was due to constipation and the administration of an enema. In the three other cases the causes were unknown.

CHART IX.



The Pulse.—The pulse was increased in rapidity in all the cases, with the possible exception of one case, and, as a rule, became feeble during some time in the course of the fever. Only six of the cases did not require alcoholic stimulants. In four cases the pulse was markedly dicrotic. In two it was described as ventose.

Both patients in whom the pulse reached 140 beats recovered. In one, this rapid pulse-beat was counted during a relapse. The next highest pulse rate recorded was 138; the patient died of peritonitis. In one case the pulse was never higher than 88, and at times only 52 beats to the minute.

The accompanying table shows the rapidity of the pulse:

TABLE VI.

	No. of cases.
Between 80 and 90 beats	1
" 90 " 100 "	4
" 100 " 110 "	18
" 110 " 120 "	7
" 120 " 130 "	10
" 130 " 140 "	3
" 140 beats	2

Respiration.—The breathing was accelerated in most instances; in only seven patients the respirations did not number 30 to the minute at some time during the course of the fever. In the case fatal from peritonitis, the breathing counted 60 to the minute at one time. In eight cases the respirations were over 40 to the minute.

Appearance.—Most of the patients, upon admission, were fairly well nourished. Only seven were recorded as emaciated, and two as somewhat emaciated. The face was flushed in eighteen, pale in thirteen, and neither pale nor flushed in the remaining cases. In one case the patient's face was described as having a mahogany color.

The pupils were normal in most cases; in one they remained dilated. In four cases the conjunctivæ were injected.

The Skin.—In most of the cases the skin was hot. In the patient that died of peritonitis, the surface of the body was cold and clammy, although the temperature ranged at 105° F.

Sweating was noticed in sixteen cases, and in one it was very profuse. The lenticular rose-red spots were observed in thirty-three of the cases, not counting a negro, who exhibited dark spots which disappeared upon pressure. They were thus detected in 73·33 per cent. of the cases. They were very numerous in eight of the patients, and in one case only one typical spot was found. In two cases they were present upon the forehead, in one on the forearms, and in another on the fingers. In four of the cases that relapsed, the spots reappeared during the relapse, and in one of them the eruption was more copious then than during the regular run of the fever.

Petechiæ were common.

Sudamina were present in seven cases, furuncles in five, and erythematous spots in four. Herpes and urticaria were noted once each.

Taches bleuâtres were seen in two cases, which ran a very severe course.

Five cases developed bed-sores, and one a phlebitis of the leg.

The Tongue.—The tongue remained moist throughout in twenty-three cases. It was dry, or became so, in twenty-two cases. The organ was covered with a white coating in thirty-two, with a brown coating in seven, and remained clean and red in two cases. The "parrot-tongue," dry and black, which could not be protruded, was noticed in four cases; and in five cases the tongue was fissured, cracked, and bleeding. In all the patients the tongue was more or less tremulous, but it was very markedly so in seven.

Constitutional Symptoms.—Chills were recorded as occurring in nineteen cases. In one case there were repeated chills.

Subjective sensations of chilliness were experienced in four, of heat in three, of both heat and cold in four cases. One patient complained of a heavy, undefined feeling.

Pain in the back and legs was complained of in thirteen cases. In one case these pains were persistent and very annoying. A number of patient spoke of pains, weary feelings, and weakness in the legs during convalescence.

Prostration was well marked in forty-one cases; in the other cases it was slight. Two boys did not seem prostrated at all.

About seventeen of the cases exhibited the typhoid state to a marked degree. The decubitus in all cases was dorsal. Involuntary fæcal evacuations and incontinence of urine occurred in seven of the patients. Three patients suffered from retention of urine.

All the patients emaciated, some during the run of the fever; but emaciation was startling in only five of the cases.

Cerebral Symptoms.—Headache was more or less present in forty cases. It generally disappeared after the first few days, but in two cases it was severe and protracted.

Dizziness was reported in eight cases.

Insomnia occurred in fourteen cases.

Complete coma was present in only one case, which proved fatal from meningitis. Semi-coma, or stupor, was observed in twenty-three cases, in one of which it was not very marked.

Fretfulness was noticed in four cases, three of which were in women, and jactitation in eight cases.

Delirium was present in about half of the patients. In eighteen, it was altogether nocturnal; in four, it was both diurnal and nocturnal. As a rule, the type of the delirium was mild, and consisted in muttering and talking, in attempts, often successful, to get out of bed, and in fanciful notions. The patients generally were possessed with the idea that they were in some strange place, and expressed their desire to go home. In one of the fatal cases the delirium was of a violent character, and the patient had to be held in restraint.

Tremulousness of the extremities was seen in fifteen cases; subsultus tendinum in eight cases, in one of which it took the form of muscular spasms, or involuntary convulsions of groups of muscles; and in seven cases carphology was noticed.

Gastro-Intestinal Symptoms.—Bad taste in the mouth was much complained of in one case.

In all cases there was more or less anorexia.

Nausea and vomiting were present in twenty-six cases. In seven, vomiting occurred several times; in one it was profuse and repeated; in another it took place every morning for five days.

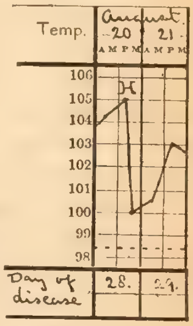
Thirst was an urgent symptom in four of the cases.

Abdominal pain was spoken of in twenty-one cases, in one of which, coupled with constipation, it was so severe that the diagnosis of typhoid fever was at first overlooked. In fifteen cases tenderness upon pressure in the right iliac fossa was well marked. Gurgling in the same region was plainly elicited in twenty-seven cases.

Tympanites was present in nineteen cases. The bowels were constipated in seventeen of the cases. In one, the constipation was obstinate. Many of the patients in whom there was diarrhœa at first subsequently had to have enemata administered to secure an evacuation from the bowels.

Diarrhœa developed in twenty-three cases. As a rule, the number of motions was from two to three a day, the stools being yellow, liquid, and offensive. In three cases the diarrhœa was very profuse, there being as many as eight movements a day. In a number of cases the bowels moved regularly every day.

Chart X.



Intestinal hæmorrhages were detected in only two cases; in both there was a fall in the temperature after the bleeding, of one degree in one case, and of five degrees in the other.

Peritonitis developed in one case.

Other Symptoms and Complications.—Epistaxis was recorded in seventeen cases, in eight of which it occurred more than once.

Otitis media purulenta complicated the fever in three cases. Deafness was complained of in five cases, and tinnitus aurium in two.

Five of the patients said they had pain in the chest, eighteen had cough, and four sore throat. Rusty sputa were observed in two, and muco-purulent expectoration in three cases. The signs of bronchitis were discovered in ten cases; and presumably there was hypostatic congestion of the dependent portions of the lungs in six cases.

Enlargement of the spleen was not sought for with great expectations; but in three cases the splenic dullness was noticeable enough to reveal the viscus large in size.

Parotid and submaxillary buboes complicated the case of the patient who died apparently from pyæmia.

In fourteen cases albuminuria was present to a greater or less extent. In two of the fatal cases there was albuminuria.

Stay in Hospital.—The average length of time that the patients were kept in hospital was thirty-eight days. One remained sixty-eight days, another only eighteen days.

Treatment.—The treatment was mainly expectant. Equal parts of milk and lime-water constituted the sole diet as long as the fever lasted. Forty grains each of subnitrate of bismuth and pepsin, divided into four doses, were given in the milk daily. Stimulants in the shape of whisky were ordered according to requirements. Several patients drank over a quart of whisky a day, and I really think that the giving of such large quantities of alcohol was the only means of keeping them alive.

The convalescents were allowed solid food, commencing with tenderloin steak on the tenth to the twelfth day after the subsidence of the fever, and were generally allowed to sit up about five days later.

Small doses of *Fowler's solution* of arsenic were given, with good results, when the fever was protracted.

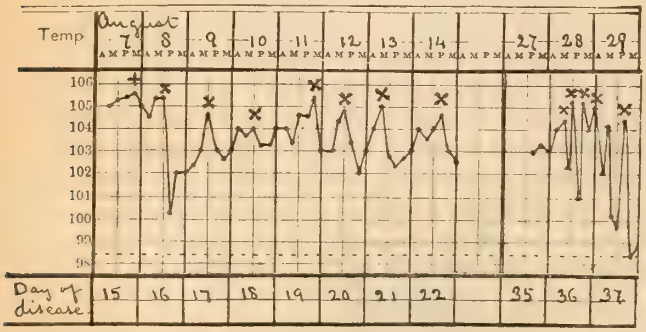
Antipyretics were required in several cases. Antipyrine, antifebrine, the cold pack, the cold bath, and the abdominal water-coil were used.

While in the capacity of junior assistant physician, I had occasion to observe, during the summer and autumn of 1885, various undesirable phenomena following the administration of antipyrine. After a dose of the drug, the temperature fell, but the patient felt no better for it. The tongue remained dry, the pulse was weakened, annoying vomiting would set in, occasionally the patient would be seized with a severe rigor, again profuse sweating would follow, and a condition approaching collapse was often reached, not to mention the antipyrine eruption, which was a source of grave apprehension to the patient's friends. Still further, I have noticed that the temperature soon becomes accustomed, so to speak, to antipyrine; and, although the first dose is followed by a marked decrease in the fever, subsequent doses are not attended with an equal success. Then, again, in some cases, the drug is given just when the fever is undergoing its natural diurnal remission, and then all it accomplishes is to accelerate this process and render the remission greater. The course of the fever is certainly not shortened by antipyrine. On the other hand, after the bath the patient felt much better; he was brighter, he called for food, and fell asleep to awake much refreshed, with moist tongue, cool skin, and good heart action. I have seen cases where all the signs of hypostatic congestion of the lungs have cleared up after the use of the cold bath.

In eight cases antipyrine was given to lower the temperature. From forty to sixty grains, with half an ounce of whisky, were given per rectum whenever the thermometer registered 104·4° F. In three of the cases vomiting was noticed. In one, severe chills and profuse sweating followed the administration. In all the cases the perspiration was so free that the patient's clothing was soaked through. One patient expressed himself as feeling much worse after the fall in the temperature had taken place. In the same patient the temperature fell from 106·4° to 100° in the course of an hour.

The accompanying charts give an idea of the action of antipyrine upon the temperature:

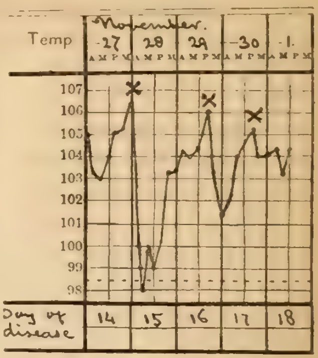
CHART XI.



In one case no reduction of temperature followed the administration of antipyrine. Two cases in which the drug was used proved fatal.

Antifebrine was given in three cases. All the patients sweat profusely, and, in all, the pulse was decidedly weakened. In one case, which went on to a fatal termination (peritonitis case), there were marked prostration, cold bodily surface, copious perspiration, feeble pulse, and vomiting after the drug was taken. Three doses were given in two days: the first dose of five grains, and the remaining two of two grains and a half. After the five-grain dose the temperature fell from 105° to 99·8° in four hours. This patient had been bathed twice, but stood the bath badly.

CHART XII.



+ Bath. × Antipyrine.

Baths were given to nine patients. The tub was wheeled to the bedside, and the patient was lifted into it. The temperature of the water at the time of immersion was generally above 80° F., and then it was gradually reduced to 68° by means of cracked ice. In some cases the temperature of the bath was not brought down lower than 72°. The patient's temperature was taken every five minutes while he was in the bath, and as soon as the thermometer registered 102° F. he was taken out. The first effect of the submersion was to raise the body-heat a quarter of a degree or so; but as soon as the fever began to abate it would go on decreasing gradually, so that after the patient was removed from the bath the temperature would still continue going down two or three degrees.

CHART XIII.

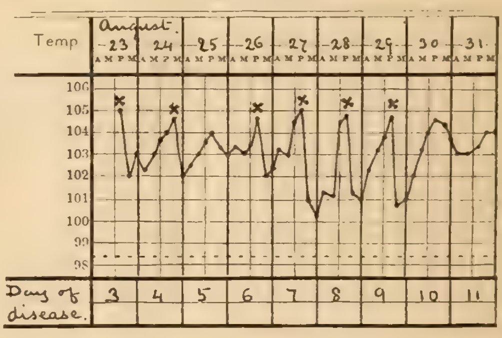
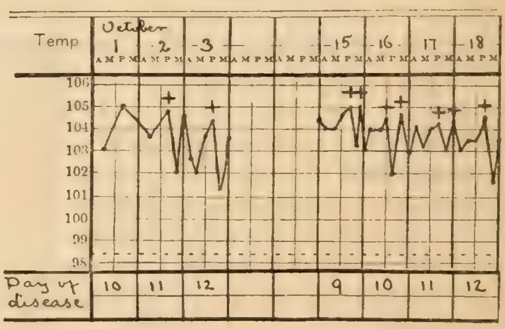
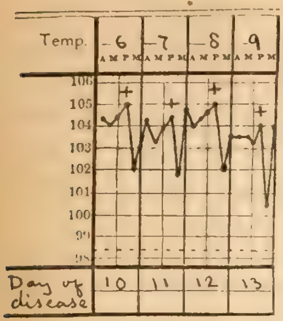


CHART XIV.



The duration of the baths was from twenty-five minutes to one hour and a quarter. One patient required as many as seven baths to control the temperature. In five cases the temperature did not go up above 104° after one or more baths. In two cases the temperature was not affected by the bath; in fact, in one of these cases the temperature ran up four tenths of a degree during a bath lasting half an hour. To sum up, in seven cases the patient's condition was very much improved by bathing, in one no effect was obtained, and in another the bath did harm. The latter patient, who afterward got antifebrine, became cyanosed and chilled during the bathing. Two patients that were bathed died. The two foregoing diagrams show the action of baths on the temperature.

Chart XV.



ON THE UNION OF FRACTURES AND THE HEALING OF WOUNDS

IN THE TERRITORIES.

By R. W. SHUFELDT, M. D.,

U. S. ARMY.

For a number of years past I have devoted but little or no attention to surgical literature, and so advance what I have to say in this brief article with some degree of hesitation, fearing lest the few facts that I desire to call attention to may have been already fully recorded by others. Should this prove to be the case, however, I can but trust that they will at least prove confirmatory of the observations of those who may have noted them. Since 1876 it has been my fortune to be so placed that I have been obliged to set a great many fractures for men, women, and children, principally of the long bones of the skeleton. These experiences occurred for the most part in the territories of Wyoming, Dakota, and New Mexico, where the individuals who had sustained them had lived for a number of years, and had drank for the same periods the strong alkali waters of those districts, for which they are so notorious. After the first few years it began to strike me that a very large proportion of these fractures proved to be exceedingly sluggish in uniting, while in a certain proportion of cases artificial methods had to be resorted to in order to bring about any union at all. It was then that I began to notice that a great many surgeons who had set numerous fractures in like parts of the country complained of the same drawbacks to their speedy recovery.

After ten years and more, during which time I accumulated all the reports and reliable evidence that I could, I came to the conclusion finally that this tardiness in the union of broken bones among people who had resided for a number of years in the territories was largely due to the action or presence of the strong alkali held in suspension in the water which they were constantly obliged to drink.

The view that this alkali will profoundly affect other tissues of the economy is sustained by the observations of those dentists (often very excellent ones) who have from time to time made a tour of the military stations in these regions. These people say that there is no question that this strong alkali water has its deleterious effect upon the teeth, softening the enamel, producing a rapid caries, and often destroying in an incredibly short space of time a set of teeth that had previously been noted for their soundness. The femur and clavicle especially seem to fall into this category, and I have met a number of surgeons whom I have heard say that they had had in their practice at least three or four cases wherein they were obliged to resort to special means in order to produce union in fractures of the former bone.

On the other hand, it seems to me that ordinary incised wounds, amputations, and the like, heal sometimes with the most marvelous rapidity. To instance this I can recall a case that I saw some time during the summer of 1878 at Fort Fetterman, Wyoming. A young man of some eighteen or twenty years of age, while engaged in a quarrel, was stabbed three times with a large jack-knife with a blade some four or more inches long. The first wound passed deep into the left lung just below the heart, the second stab entered the abdomen from behind and passed below the stomach, while the last wound entered the left hip joint. These several injuries were simply treated with antiseptic dressings, and, strange as it may appear, this man was up and about on horseback on the morning of the ninth day, with all three injuries completely healed. A history of this case is on file in the Surgeon-General's office of the army, and I illustrated it with drawings of the knife and the location of the wounds.

Only last Sunday I was called upon to amputate the right thumb of a young healthy German, a man of about twenty-five years of age. He had accidentally shot himself with a 0·45 caliber carbine through the distal joint of this digit, and I disarticulated the member at the metacarpo-phalangeal articulation, the only antiseptic used during the operation being the sponging with the solution of corrosive sublimate, 1 to 1,000 parts of water; this also formed the sole subsequent dressing.

To-day, just one week after the original injury, this wound, or rather amputation, has *completely* healed by first intention, and that, too, without a single sign of any suppuration having taken place whatever, and only a drop or two of clear serum on the third day stained the absorbent cotton dressing. There is not the slightest evidence that an abscess will form in the hand, nor has there been a particle of swelling since the second day, and even what there was then has now entirely disappeared. I have heard of such cases before, though really never fully credited them; but here was an amputation that healed absolutely by first intention, and without the slightest sign of any suppuration. This is the history of a great number of these cases in this western country, by which I mean that they heal very quickly and very kindly, some suppuration taking place in a majority of instances, of course. In the case I have just cited I would say to the uncompromising Listerites that the amputation never saw the carbolic spray, nor was it at any time during the week it took to heal ever enveloped in the several layers of dry-goods insisted upon several years ago by those extremists in antiseptic surgery.

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FOERSTER ON MYOPIA.

A recent issue of the "Archives of Ophthalmology" contains a paper on "The Influence of Concave Glasses and Convergence of the Ocular Axes in the Increase of Myopia," by Foerster, which is of great interest. The author is an opponent of what may be called the tensor theory of the increase of myopia; indeed, he thinks that, if the elongation of the myopic eye were caused by the muscular action of the tensor, myopia would carry within itself its own infallible remedy, because the work demanded of the tensor decreases as the myopia increases, whereas it is well known that no such self-regulating action takes place. All such contradictions disappear when we look for the origin and increase of myopia in the excessive convergence of the visual axes. As the myopia increases, the convergence of the visual axes increases for near objects, while at the same time the demands upon the tensor chorioideæ decrease. The persistent increase of myopia, when once it has attained a high degree, harmonizes precisely with the increased angle of convergence. Concave glasses that wholly correct the myopia, and still more those that over-correct the trouble, make the eyes feel so uncomfortable, by the great demands that they make on the tensor of the chorioid, that the wearer involuntarily increases the distance at which objects are held, and at the same time decreases the convergence of the visual axes. But it must of necessity follow that, despite the great demands made upon the tensor of the chorioid, the antero-posterior diameter of the eye does not elongate, owing to the action of the strong concave glasses. Foerster sees in this fact an overwhelming argument against the tensor hypothesis, and an equally weighty one in favor of the convergence hypothesis. In these cases, where the glasses are worn all the time, the myopia remains stationary, in spite of the immoderate exertions of the tensor, and the patients fall into the ranks of the presbyopes. The comparatively early use of correcting or over-correcting concave glasses induces the patients to preserve a relatively greater object-distance, and this prevents excessive convergence of the visual axes.

In the author's opinion, two things are necessary in order to oppose the increase of myopia: 1. The persistent maintenance of a greater reading or working distance by means of mechanical apparatus. 2. The constant employment of correcting concave glasses. If the myopia is less than D. 1·75, the glasses may perhaps be dispensed with, but, if the myopia is D. 2·50 or more, they are absolutely necessary, and they should be worn all the time. We should strive to secure an habitually correct posture of the body. Concave glasses which do not wholly correct are frequently desirable for reading and writing in the higher degrees of myopia, but they should be combined with abducting prisms. If the concave glasses are extremely strong, the resulting diminution of the retinal images exerts some influence upon the acuteness of vision, which in high degrees of myopia is nevertheless somewhat below the average. Besides these prismatic-concave glasses for near work, the patients will need carefully chosen concave glasses for distant objects. The progressive development of myopia must follow in a vicious circle. The faulty posture of the body demands, first of all, an excessive convergence of the visual axes, and, in order to maintain this convergence for any length of time, too excessive an impulse is communicated to the tensor chorioideæ. The consequence of this is that the retinal images lose more or less of their distinctness, which can be restored only by reducing the distance at which objects are held. Then, again, the diminution of the object-distance demands a greater convergence on the part of the interni, which can be accomplished only by an impulse relatively too strong upon the tensor. Finally, with the ever-increasing tension of the interni, genuine axis-myopia is developed. The vicious circle can be broken: 1. By the compulsory maintenance of a greater object-distance, so that the excessive convergence is prevented. 2. By the use of concave glasses. 3. By the employment of abducting prisms of suitable refracting angle.

MINOR PARAGRAPHS.

THE ASSOCIATION OF GENITO-URINARY SURGEONS.

The work of organizing this new special society has been undertaken by a number of gentlemen who have the respect and confidence of their professional brethren to a notable degree, and, with two such energetic and representative men as Dr. Keyes and Dr. Taylor for temporary chairman and temporary secretary, it is less to be wondered at than would at first sight appear that so attractive a programme has been made out for the first meeting as the one which we publish in this issue. Making full allowance for the fact that the first meeting of a society almost always calls out a number of papers of unusual merit, it must be acknowledged that in this instance more than the ordinary promise is given of a society of enduring interest and usefulness. The new organization has the advantage that the department of medicine to which it is devoted is one of great interest to the whole profession. We shall be much disappointed if its career does not justify its founders' anticipations.

THE INFLUENCE OF MATERNAL IMPRESSIONS ON THE FŒTUS.

This is a subject with a copious literature. Not only in the days when manifestations of the influence were popularly thought to be the rule rather than the exception, but in very recent years also, there has been no dearth of records of alleged facts pertaining to it, or of ingenious commentary. To make a readable addition to this mass of literature is no trifling task, but it has been accomplished by Dr. Fordyce Barker, in the form of a paper read at the last meeting of the American Gynæcological Society, and now published in the eleventh volume of the society's "Transactions." In a paper of very moderate length Dr. Barker gives graphic accounts of a number of striking instances that have either come under his own observation or been communicated to him directly by their observers, and adds a running commentary that is at once highly suggestive and indicative of his conservatism.

THE DESTRUCTION OF THE ALEXANDRIAN LIBRARY.

For centuries the burning of the vast library of Alexandria has been commonly attributed to the narrow-mindedness of the Arabian rulers and scholars of the time. Modern research, however, seems to be tending to relieve their memory of the odium attaching to the catastrophe. A correspondent writes to us that he has been told by Professor Lanciani, the Italian archæologist, that the destruction of these records was incidental to the uproar and general conflagration due to a riot brought on through the influence of ignorant and religious fanatics. For the credit of a race to which medical literature is much indebted, it is to be hoped that this view will be satisfactorily shown to rest on a substantial basis.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 26, 1887:

DISEASES.	Week ending Apr. 19.		Week ending Apr. 26.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	5	1	2	0
Scarlet fever	59	13	56	15
Cerebro-spinal meningitis	6	6	1	1
Measles	78	13	86	6
Diphtheria	79	35	89	38
Small-pox	4	4	4	0

The Health of New York City.—During the four weeks ending Tuesday, April 26th, there were reported to the Sanitary Bureau of the Fourth Division of the Health Department 33 cases of typhoid fever and 12 deaths; 240 cases of scarlet fever and 48 deaths; 13 cases of cerebro-spinal meningitis and 11 deaths; 369 cases of measles and 45 deaths; 344 cases of diphtheria and 148 deaths; and 25 cases of small-pox and 9 deaths.

The Association of Genito-urinary Surgeons, which has lately been organized with Dr. Edward L. Keyes, of New York, as temporary chairman, and Dr. Robert W. Taylor, of New York, as temporary secretary, will hold its first annual meeting at the Laurel House, Lakewood, N. J., on Tuesday and Wednesday, the 17th and 18th of May. In addition to an address of welcome, by the temporary chairman, the programme includes the following named papers: "The Connection between Masturbation and Stricture of the Urethra," by Dr. S. W. Gross, of Philadelphia; "On Chancroid," by Dr. F. B. Greenough, of Boston; "On Horny Growth of the Penis, with exhibition of a Remarkable Case," by Dr. J. H. Brinton, of Philadelphia; "Supra-pubic Cystotomy for Vesical Tumor and Large Calculus, with Comments upon Suture and a Suggestion for Drainage," by Dr. E. L. Keyes, of New York; "Case of Hysterectomy for the Relief of Pyelitis from Obstruction," by Dr. A. T. Cabot, of Boston; "On the Choice of Operation for the Removal of Vesical Calculus in Cases complicated by Prostatic Obstruction," by Dr. J. P. Bryson, of St. Louis; "Idiosyncrasy as affecting the Specific Treatment of Syphilis," by Dr. P. A. Morrow, of New York; "Observations on the Use of Oil of Wintergreen in the Treatment of Gonorrhœal Rheumatism," by Dr. R. W. Taylor, of New York; "Some Cases of Pyelitis in which Frequent and Painful Micturition was the Chief Symptom," by Dr. George Chismore, of San Francisco; "On Temporary Over-strain of the Bladder producing Chronic Retention of Urine," by Dr. F. N. Otis, of New York; "Early Syphilitic Epididymitis," by Dr. J. N. Hyde, of Chicago; "Prostatotomy for Obstruction—Two Cases," by Dr. A. T. Cabot, of Boston; "A Plea for the More General Use of Nitrate of Silver in the Deep Urethra, with an Improved Instrument for its Application," by Dr. E. L. Keyes, of New York; "A Rare Form of Septicæmia following Operation for Urethral Stricture—*Septicémie foudroyante gazeuse*," and "Exhibition of Sections of Tubercular Testes with Bacilli, and of the Coëxistent Bacilli in the Sputum," by Dr. R. W. Taylor, of New York.

A Medical Directory for 1887.—Messrs. P. Blakiston, Son, & Co., of Philadelphia, have just published the 1887 issue of the "Medical Directory for Philadelphia, Pennsylvania, Delaware, and the Southern Half of New Jersey." The work has evidently been carefully revised, and an improvement has been made in the arrangement of the matter which greatly facilitates reference. In addition to complete lists of physicians, lists of dentists, veterinarians, druggists, and manufacturers, more or less intimately connected with the medical profession, are given; also all necessary information in regard to medical colleges, hospitals, medical societies, etc. A new and important feature of the work is a map of Philadelphia and suburbs, which is contained in a pocket in the cover. The directory is handsomely bound and is in every way creditable to its publishers, who seem to have been successful in surmounting the difficulties incident to the preparation of such a work.

The Diagnosis in the Case of the late Captain Lull.—We have received a letter from a well-known member of the medical corps of the navy, in which, under date of March 19th, the writer says: "In the 'Army and Navy Journal,' March 12, 1887, concerning Capt. E. P. Lull, U. S. N., recently deceased, I read: 'Although greatly emaciated and exhausted by his prolonged struggle with disease, the exact nature of which was not discovered until within a few weeks, Captain Lull died in harness, having attended to official duty only two hours before what most nearly resembled diabetic coma ended his useful and honorable career.' I beg leave to state, *veritatis causa*, that I have seen the official certificate of the death of Captain Lull, wherein I find that 'he died of phthisis pneumonica chronica.' 'An autopsy established pulmonary tuberculosis, both lungs.' By the medical officer of the U. S. Naval Hospital to which he was invalided from the Hartford, the same diagnosis was made, recorded, and reported officially upon his arrival at the U. S. Navy-Yard, Pensacola."

An Alleged Instance of Remarkable Fecundity.—A correspondent sends us an extract from a book giving the history of a journey to Saragossa, Barcelona, and Valencia, in the year 1585, by Philip II, of Spain. The book was written by Henrique Cock, who accompanied Philip as his private secretary. On page 248 the following statements are to be found: At the age of eleven years, Margarita Gonçalez, whose father was a Biscayian, and whose mother was French, was married to her first husband, who was forty years old. By him she had seventy-eight boys and seven girls. He died thirteen years after the marriage, and, after having remained a widow two years, the woman married again. By her second husband, Thomas Ochoa, she had sixty-six boys and seven girls. These children were all born in Valencia, between the fifteenth and thirty-fifth years of the mother's age, and at the time when the account was written she was thirty-five years old and pregnant again. Of the children, forty-seven by the first husband and fifty-two by the second were baptized; the other births were still or premature. There were thirty-three confinements in all.

The University of Athens is said by Dr. C. Schmit ("Union médicale") to have the only medical faculty in Greece. It consists of forty-four professors, and the courses are attended by between eight hundred and fifty and nine hundred students.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 10, 1887, to April 23, 1887:*

Richard, Charles, Captain and Assistant Surgeon. Granted two months' leave of absence on surgeon's certificate of disability. S. O. 82, A. G. O., April 9, 1887.

Kane, John J., Captain and Assistant Surgeon. Resigned April 13, 1887. S. O. 85, A. G. O., April 13, 1887.

Walker, Freeman V., First Lieutenant and Assistant Surgeon. Ordered from Fort McIntosh, Texas, to Post of San Antonio, Texas. S. O. 45, Department of Texas, April 11, 1887.

Appointments.

Woodruff, Charles E.; Cabell, Julian M. To be Assistant Surgeons with the rank of First Lieutenant, to date from April 14. 1887.

The Army Medical Board, New York City, New York, is dissolved. S. O. 82, A. G. O., April 9, 1887.

Smith, J. R., Lieutenant-Colonel and Surgeon. Detailed as member of board to meet in Washington, D. C., April 28th, to prepare rules and regulations for the government of the hospital corps of the army. Par. 8, S. O. 92, A. G. O., April 21, 1887.

Taylor, Morse K., Major and Surgeon. Relieved from duty at Fort Sill, Indian Territory, May 10, 1887; to proceed to his home, San Antonio, Texas, preparatory to retirement. Par. 20, S. O. 92, A. G. O., April 21, 1887.

Heizmann, Charles L., Major and Surgeon. Detailed as member of board to meet in Washington, D. C., April 28th, to prepare rules and regulations for the government of the hospital corps of the army. Par. 8, S. O. 92, A. G. O., April 21, 1887.

Ainsworth, Fred. C., Captain and Assistant Surgeon. Detailed as member of board to meet in Washington, D. C., April 28th, to prepare rules and regulations for the government of the hospital corps of the army. Par. 8, S. O. 92, A. G. O., April 21, 1887.

Moseley, Edward B., Captain and Assistant Surgeon. Ordered for duty at Whipple Barracks, Arizona. S. O. 89, A. G. O., April 18, 1887.

Cabell, Julian M., First Lieutenant and Assistant Surgeon (recently appointed). To proceed to Fort Omaha, Neb., and report in person to the commanding officer of that post for temporary duty. Par. 19, S. O. 92, A. G. O., April 21, 1887.

Society Meetings for the Coming Week:

Monday, *May 2d:* New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; Boston Medical Association (annual); St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *May 3d:* New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Hudson, N. J. (Jersey City—annual), and Mercer, N. J. (annual), County Medical Societies; Connecticut River Valley Medical Association (Bellows Falls, Vt.); Androscoggin, Me., County Medical Association (Lewiston).

Wednesday, *May 4th:* Harlem Medical Association of the City of New York; Medical Society of the County of Richmond, N. Y. (Stapleton); Essex, Mass., North District (annual—Haverhill) and Plymouth, Mass., District (annual) Medica- Societies; Bridgeport, Conn., Medical Association.

Thursday, *May 5th:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Medical Society of the County of Orleans (semi-annual—Albion), N. Y.; Ocean, N. J., County Medical Society (Tom's River); Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *May 6th:* Practitioners' Society of New York (private).

Saturday, *May 7th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Letters to the Editor.

MALARIA AND PNEUMONIA.

Memphis, Tenn., *April 8, 1887.*

To the Editor of the New York Medical Journal:

Sir: Having read Dr. Phillips's article, in your issue for March 26th, in which he says: "It must be conceded that a pneumonia may go no further than the stage of engorgement or congestion, and physicians would save themselves from troublesome questions if they called this first stage pulmonary engorgement, and not pneumonia, reserving the use of the latter term until consolidation has taken place"—I am reminded of a class of cases occasionally seen in this section. I have been called to this kind of a case: The patient has suddenly had a chill, followed by fever, with pain in the side, free expectoration of blood, and abundant crepitant râles. In a few hours the fever subsides, and there is then an improvement in both local and constitutional symptoms. Without proper treatment, another paroxysm will occur in twenty-four or forty-eight hours, and the patient will die in the third or fourth attack. Quinine, given promptly and freely in such cases, will prevent a return of the paroxysm, and the patient goes on to recovery at once. There is also a remittent form of pulmonary engorgement, in which, while there is not a disappearance of the local symptoms of the disease, there is generally a periodical improvement in the symptoms and in the patient's general condition, with a decline of the fever. However, in the majority of the cases I have treated I have failed to discover the characteristic rise and fall in the temperature or the other leading features of malarial manifestations. Again, in further illustration of a case of pulmonary engorgement where consolidation did not take place, I will quote from a report of a case which I published in the "Mississippi Valley Medical Monthly" for August, 1883:

> "June 3d, 8 p. m., we were called to see Tom H., aged twenty-four, occupation a cooper, a native American. He was temperate in his habits, and his health had generally been good. He stated that about

one o'clock that day he had a hard chill, and during the entire afternoon had very high fever, with some pain and a feeling of tightness about the right side of his chest. On examination, we found his temperature 104°, pulse 100, and respiration 30; ordered six grains of calomel, to be followed by six grains of quinine every three hours, and sponging the body with equal parts of alcohol and water.

"*June 4th, 9 A. M.*—Temperature 103°, bronchial breathing and crepitation heard over lower portion of right lung, tongue coated, and the expectoration tenacious and tinged with blood. There was pain in right side with each full inspiration. Gave a quarter of a grain of morphine, continued the quinine in free doses, and sponged the body frequently. *6 P. M.* Temperature 104°, and general condition about the same as at morning visit.

"*June 5th, 9 A. M.*—Patient rested well last night. Temperature 102°. *6 P. M.* Temperature same as in morning.

"*June 6th, 9 A. M.*—Patient clear of fever, tongue clean, and on physical examination we find all local symptoms of pneumonia have disappeared. Patient discharged."

With a little digression from the main subject under consideration, I should like to speak of malaria as a frequent factor in the ætiology of pneumonia in this section. It is conceded by eminent authority that any cause which tends to lower vitality will increase the liability to pneumonia; alcoholic stimulants taken to excess—the nervous system being prostrated from the effects of constant stimulation and the consequent alteration in the integrity of the blood—may act as a predisposing cause. The various forms of toxæmia and anæmia occupy a causal relation to attacks of the disease. In a highly malarial region nearly all acute diseases are influenced to some extent by malarial poison. It is probable that it acts as an underlying cause in predisposing to attacks of pneumonia by producing impoverishment of the blood, by its depressing effects on the nervous system, and by an interference in the circulation and secretions of the abdominal viscera, caused by an engorgement of those organs. Hence, in the pneumonia of this section of the country, where we have to contend with malaria as a pathological element in all its intense and protean forms, the leading and most frequent factors which increase the liability to the disease seem to be blood-perversion and lowered function of the vasomotor system, produced by the effects of the malarial poison.

If malaria plays such an important part in our pneumonias, why is it that its characteristic symptoms are not easily discovered? In idiopathic erysipelas, and in a great many other acute diseases, we undoubtedly have malaria associated with them, and we may assume that the physician is not far wrong when he takes the position that nearly all our acute diseases are influenced to a greater or lesser degree by the malarial poison. It is possible that in pneumonia, as in some other acute diseases, the malarial manifestations are masked by the primary disease. Quinine, too, is promptly prescribed in nearly all our acute diseases, and it no doubt prevents a discovery of the malarial features. W. W. Taylor, M. D.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of April 13, 1887.

Dr. Lewis A. Stimson in the Chair.

Removal of both Parotid Glands.—Dr. Wyeth presented a patient from whom he had removed round-celled sarcomata of both parotids. The main points were as follows: Z. M., aged forty-seven, began about sixteen months ago to notice enlargement of both parotids, which continued until her admission into Mt. Sinai Hospital. She was strongly advised not to have an operation performed, and was told that, even if she survived, facial paralysis would result, but she insisted on being relieved. The right external carotid and superior thyreoid were tied, and the corresponding neoplasm was then dissected out. Three months later the more extensive growth on the opposite side was removed with great difficulty. The patient made a good recovery. A careful examination of both tumors was made by a competent microscopist, who pronounced them to be typical round-celled sarcomata. Attention was called to the fact that the patient had facial paralysis on both sides, more marked on the left. She could not close her eyes completely, but had no keratitis. She was much troubled with dryness of the mouth, and had been advised to use olive-oil, which had benefited her. There was no trouble about her nourishment, as she was restricted mainly to liquid diet. There was slight power of motion in some of the muscles on the left side of the face, but it was difficult to tell whether it was the group supplied by the motor branch of the fifth nerve, or that supplied by branches of the facial. The patient had no pain and could talk very well. She could chew without much difficulty, and was not obliged to push the food between her teeth with her fingers.

Dr. Abbe asked if it was possible during the operation to distinguish the divided nerves at the edges of the tumors. Could not the opposite ends, he asked, have been united by sutures, since the gaps left after the removal of the neoplasms could not have been very wide?

Dr. Wyeth replied that he saw the main branches of the facial nerves, but if he had stopped to apply sutures to the ends, the operation would have been prolonged beyond all hope of the patient's surviving.

Rupture of the Quadriceps Extensor Tendon; Perfect Recovery after suturing the Divided Ends.—Dr. McBurney presented a patient who, two years before, had slipped while lifting a heavy packing-box from a truck; the edge of the box struck him just above the patella, causing a rupture of the quadriceps tendon near its insertion, but without any external wound. A transverse incision was made across the joint, above the patella, and the capsule was found to be extensively lacerated on either side of the bone, while there was a quantity of coagulated blood within the joint cavity. The fibrous fringes and the torn ends of the muscles were turned inward. The latter were excised, the rent in the capsule was closed with catgut, and the ends of the tendon were united and kept in close apposition by quill sutures, which were secured by doubled silver wire, passed through the edge of the patella. A plaster dressing was applied and the wound healed quickly, the recovery of motion being slow but eventually complete. Now there was apparently no difference between the two limbs. The patient had refused to allow the use of passive motion, yet the result had been perfect.

In reply to a question, the speaker explained that the "quills" (which were pieces of rubber tubing) were placed transversely, one two inches above, and the other about two inches below, the incision. He was not aware that this form of suture had been previously employed under similar circumstances.

Dr. Briddon asked if the inverted fibrous strips lay over the torn muscle.

Dr. McBurney replied in the affirmative.

Dr. Markoe asked if there was any record of a similar operation.

Dr. McBurney replied that he had never read of one.

Dr. Markoe said that Dr. Weir had had two cases in which the lesion was the same as in the case described, and that he himself had observed one.

The Chairman said that he had had a patient who had long previously ruptured both quadriceps tendons. Although reunion failed, the patient, who was a laboring man, was able to attend to his work. He could ascend a ladder by aiding himself with his hands and keeping the knees extended, and could stand without difficulty as long as he kept his legs straight, but as soon as he bent his knees he would fall.

Dr. Sands thought that the operation performed in this case was undoubtedly the proper one. He believed that it had been performed before, and that Maydl had reported a successful case in the "Zeitschrift für Chirurgie."

Dr. Markoe asked if the separation occurred close to the patella.

Dr. McBurney replied that it took place as near as possible to the bone; there was a gap of an inch and a half or two inches between the patella and the torn end of the tendon.

Extra-peritoneal Rupture of the Urinary Bladder.—Dr. C. K. Briddon then read a paper on this subject. [See page 482.]

In connection with the paper he presented the patient upon whom the successful operation had been performed. There still remained a small fistulous opening in the supra-pubic wound.

The reader added at the conclusion of his paper that the patient whom he had presented was troubled with a distressing symptom—viz., he had been unable to have an erection since receiving the injury. He asked if any member of the society could suggest a remedy. He had himself advised the use of faradization, but the case appeared to be a hopeless one. In reply to a question by Dr. Abbe, the reader said that the patient had sexual desires.

Dr. Weir suggested that perhaps the galvanic was preferable to the faradaic current.

Dr. Briddon thought that the interrupted galvanic current might meet the indications. There was some doubt as to whether the condition was due to a cutting off of the nerve-supply or to muscular paralysis.

Dr. Weir said that, although his experience had been limited, he would venture to criticise the practice of making the perineal opening first. He would first make the supra-pubic incision, then carry the end of a forceps through the infiltrated tissues and cut upward upon it from the perineal side. He called attention to the fact that the method of detecting a rupture of the bladder which he had suggested was based on two points—the presence of increasing dullness in the hypogastric region, from the gradual distension of the bladder, if uninjured, by the injected liquid, and the fact that the same quantity of fluid flowed out as was originally thrown in. Even if in this test some of the fluid did escape from the torn bladder, it would only give rise to an increased area of dullness over the hypogastrium, and do no harm, as the surgeon would at once make his incisions to allow of the escape of the urine already extravasated.

Dr. Briddon thought that the method suggested by Dr. Weir was not reliable, because there were so many cases in which the rupture was intra-peritoneal. Heath and Rivington had been unsuccessful with it. He himself did not allege much for the perineal section. It was not performed in the case of the patient who recovered, because his condition was so bad that it did not seem justifiable. In the other case it was done as an exploratory measure, and the opening could afterward be used for drainage.

The supra-pubic operation was quite easy; as soon as the retro-peritoneal fascia was reached, it bulged into the wound, and could readily be torn apart. There was no danger of opening the peritonæum. He reiterated his preference for the perineal section as an exploratory measure, because in cases of extensive fracture, with great injury to the soft parts, it might not be advisable to make firm pressure over the hypogastrium to aid in digital exploration.

The Chairman thought Dr. Briddon's experience showed that little was to be gained by the perineal incision; he believed that, if it was made at all, it should be limited to a small opening for purposes of drainage. He had recently seen Dr. Keyes drain a bladder in this way after supra-pubic lithotomy. A soft catheter was prepared by passing a needle, carrying a long piece of silk, into the eye and out through the adjoining blunt end of the catheter. In the middle of the silk was a large knot, and the silk was drawn through until the knot stopped it. A long, narrow-bladed knife was passed into the membranous urethra, and along it, and then along the groove of the staff was carried an eyed probe threaded with the silk before mentioned. The end of the probe was passed into the bladder, and drawn out through the hypogastric incision, and then, by pulling upon the silk, the end of the catheter was brought into the bladder. The other end of the silk hung out of the perineal wound, and was used to withdraw the whole piece, leaving the catheter in place.

Dr. Sands thought it was generally conceded that in lithotomy cases the bladder could not be drained satisfactorily through the perineal wound.

Dr. Weir said that the bladder could not be drained through the perineal wound without a drainage-tube being introduced through it, unless the lateral section had been made.

The Chairman said that in two of Dr. Keyes's cases the supra-pubic wound had closed, and the bladder was perfectly drained from below.

Dr. Briddon thought that, if a perineal opening had been made in the case of the patient presented, the sinus would not have continued to discharge so long; in fact, it might still be necessary to perform that operation in order to cause its closure.

NEW YORK ACADEMY OF MEDICINE.

Meeting of February 17, 1887.

The President, Dr. A. Jacobi, in the Chair.

Progressive Spastic Ataxia and the Combined Sclerosis of the Spinal Cord.—Dr. C. L. Dana, who read a paper on this subject, preferred the term progressive spastic ataxia to that of ataxic paraplegia, proposed by Gowers; he admitted, however, that a satisfactory name for the condition was not yet at hand. The term combined fascicular sclerosis, based on the pathology, might be employed, were it not that there were rare cases in which this sclerosis was found when the symptoms during life had been those of locomotor ataxia with flaccid paralysis and not with spasm. In analyzing a large number of cases of disease of the spinal cord, Dr. Dana had selected sixteen from among forty-five cases in which autopsies had been made as having a bearing upon the subject of his paper. In addition to the description of these sixteen cases he gave the histories of eight which had come under his own observation, in two of which an autopsy had been made. In one other the classification was doubtful owing to the suspicion of hysteria. The author believed that most of the cases described as spastic paraplegia were apparently cases of tabes dorsalis to which there was added a disease of the lateral columns, especially of the pyramidal tracts, often of the direct cerebellar tracts. According to his own observation, it did not seem possible always to draw the line between cases in which the spastic symptoms and those in which the sensory symptoms predominated. In one class the background was a sensory one, the cases resembling locomotor ataxia of a mild grade plus spasm. In the other the fundamental features were spasm and paralysis with ataxia or anæsthesia and pains superadded. A study of the sixteen cases in which autopsies had been made, and of the eight which had come under his observation, brought out the following facts: Syphilis was rare, occurring in not more than five per cent. Heredity was an important factor, spastic ataxia even showing a family type. In cases occurring in early life sexual and alcoholic excess had been noted. If the disease came on later it was due to hard physical strain and exposure. The disease began usually with ataxia, then there appeared stiffness in the legs and trembling; sexual power early declined; then there was temporary vesical trouble, generally retention or slowness in emptying the bladder; a feeling of numbness and pains of a fulminating character appeared, but did not last long. There were often patches of anæsthesia over nerves, disappearing under treatment. The muscle sense was often good. There were no gastric or enteric crises. Muscular tension and spasm were marked features, usually in the lower extremities, but sometimes involving the arms. The gait was a combination of that of tabes and that of spastic paraplegia. The main lesions in spastic paraplegia were sclerosis or degeneration of the three long systemic tracts, viz., the direct cerebellar and pyramidal tracts and the columns of Goll. But in many cases there was a considerable extension of the sclerosis, especially in the dorsal region. If the sclerosis was superficial, the prognosis was more favorable than would be expected from its extent. The lateral sclerosis was apt in time to encroach on the mixed lateral columns, and even on the cornua cells. In the majority of cases the lesion was most marked in the upper dorsal region. Barring accidents, the prognosis as to length of life was more favorable, the author thought, than in typical tabes.

As to treatment, the nervous excitement might be allayed with bromides. Rest was essential. Slight sensory symptoms might disappear under the use of electricity. A thorough course of antisyphilitic treatment should be tried when needed. Warm baths and cold douches were of benefit; hot baths were dangerous.

Dr. M. **Allen Starr** thought we had still to look for a suitable name for the class of cases referred to by Dr. Dana. Gowers admitted that the term which he had employed, ataxic paraplegia, was not appropriate, for the cases were not always ataxic, and they were not always paraplegic. The same objection applied to the name employed by Dr. Dana, spastic ataxia. As to the pathological name, combined fascicular sclerosis, he thought the term fascicular should not be employed, because, as had been shown, the sclerosis was not exclusively fascicular. The question of diagnosis between tabes and combined sclerosis was a difficult one to decide. The picture of combined sclerosis was a somewhat hazy one.

Dr. G. W. **Jacoby** did not think we should gain much by purely clinical pictures. The cases cited by Dr. Dana in which autopsies had been made would undoubtedly prove of great value. What we really knew with regard to system-affection in the spinal cord was that there were cases of tabes in which certain strands of the lateral columns were affected, and in which the tabetic symptoms were predominant, but there were other cases, in which the lateral columns were affected, but the posterior columns primarily so, in which the spastic symptoms took the lead. Then there were intermediate cases. It seemed that the number of cases of tabes with secondary spastic symptoms was much larger than that of those in which the tabetic were secondary to the spastic symptoms.

Dr. E. C. **Seguin** agreed with the previous speakers that there were deviations from the type of strict fascicular degeneration in the posterior columns and the pyramidal tract. He related the history and post-mortem appearances in a case which had come under his observation. Paralysis with a spastic condition occurred before death, and the spastic paraplegia and slight ataxia involved the arms. There were very few of the sensory symptoms, and none of the fulminating pains of tabes. At the autopsy there appeared to the unaided eye to be a mixed sclerosis of the posterior and lateral columns, but the microscope showed extension of the lesion to the extreme lateral portions of the cord, and it was rather irregular at different levels.

Dr. W. R. **Birdsall** acknowledged that, taking a large number of cases, they could be subdivided into different classes with regard to the symptoms, but it was a question in his mind whether these subdivisions would not be found to have as a basis a difference in degree of the same disease rather than different types of disease. The same disease, affecting different columns or different nerve-tracts, would produce different symptoms by disturbing the function of those tracts. The extent of the disease might vary not only at a given level of the cord, but also at different levels, and this would change the clinical picture, although, so far as the diseased process was concerned, a separation of the cases into different classes would hardly be justified.

Dr. **Brill** said it was a recognized fact that certain fiber tracts in the cord were more disposed to the sclerotic process than others, but why the disease should skip about in the manner it did, we were unable to say. The group of cases cited by Dr. Dana depended upon the involvement of special fiber systems and special nerve cells in the cord.

The **President** suggested that the peculiarly irregular distribution of the diseased process in the cord might be accounted for by its following the course of the blood-vessels, the ramifications of which had been shown to be extremely fine.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of January 26, 1887.

The President, Dr. T. **Mitchell Prudden**, in the Chair.

A Double Mitral Orifice.—Dr. W. H. **Porter** presented a heart in which, instead of one mitral orifice, there were two, the accessory one being smaller than the other. So far as he knew, the specimen was unique.

Miliary Aneurysm of the Brain.—Dr. **Porter** presented a photograph of a miliary aneurysm of the cortical substance of the brain, it being the most satisfactory specimen illustrative of this lesion which he had ever obtained. The aneurysm consisted of a globular swelling or dilatation of the vessel, the vessel being somewhat increased in size on the proximal side of the aneurysm, and somewhat diminished in size on the distal side. The coats of the vessel, as of all the vessels throughout the body, were thickened. There were no large aneurysmal dilatations.

Lepto-meningitis and Pachymeningitis.—Dr. L. E. **Holt** presented a specimen, consisting of the brain of a child twenty months old, which was of interest in connection with the history. The child had been under the speaker's observation since it was four months of age. A twin and the mother had died of tuberculosis. Last summer it had gastro-enteritis, and its life was saved with difficulty. There was subsequently marked anæmia, and in August there was albumin, but no casts in the urine. The temperature rose, and became variable, ranging from 102° to 105° F. Careful and repeated examinations failed to reveal any cause for the elevation of the temperature. The use of drugs was stopped and improvement followed. But in September the temperature rose again, and varied from 102° to 105°. Tuberculosis was borne constantly in mind, but there were no physical signs of that disease. The spleen was considerably enlarged, but quinine was given without benefit. The next provisional diagnosis was that of syphilis, although there was nothing pointing to that disease except persistent cachexia and enlargement of the spleen. Mercurial treatment was employed, and, although the spleen diminished in size, and there was considerable improvement at first, it did not continue. The child sat listlessly, without any decided brain symptoms, and, while feeble and delicate, it seemed to have no definite disease. It remained in this condition until about three days before its death, when the temperature went up suddenly, reaching 105·5°, and just before death advanced to 108° F. There were Cheyne-Stokes respiration, contraction of the pupils, and symptoms of meningitis. Death seemed to take place from the high temperature. There had been no suspicion of meningitis prior to the last days of its illness. The lesions of pachymeningitis and lepto-meningitis were found to be marked, the former of weeks', if not of months', duration, the latter being recent.

Salpingitis.—Dr. Pryor presented, through the courtesy of Dr. Sims, the body of a uterus to which was attached a tumor formed by a pyosalpinx, removed on the 11th inst. The history was the usual one of so-called recurring cellulitis. The tumor was attached to the uterus in such a manner as to make it necessary to amputate this organ near the internal os. The patient died about three days afterward, of constriction of the bowel by an old adhesion. The sac contained several pus cavities, one of which was ready to burst into the peritonæum. The largest cavity was filled with greenish pus, and the speaker thought that it represented the cavity of the tube. Dr. Prudden had examined carefully for the bacteria of suppuration, but had failed to find any; he remarked that the surface of the cavity was covered with granulation tissue, and the material which had formed pus was an excess of the cells from which the new membrane was developed.

Stricture of the Œsophagus from Malignant Disease.—Dr. Roosevelt presented the stomach and œsophagus of a woman who, for more than a year before he had seen her, had complained of nausea and vomiting, and some abdominal pain. She never vomited any blood. Shortly after he first saw her, about six months before her death, the abdominal pain entirely ceased. She continued to vomit not long after eating, but she never vomited except when the stomach, or what was supposed to be the stomach, was filled with food. The speaker had thought she was suffering from chronic gastritis, but, on attempting to introduce the tube to wash out the stomach, it was obstructed near the cardiac orifice and doubled upon itself. Two weeks before her death he was unable to pass a probe through the stricture. She was able to take some solid food and a quart of fluids at a time, but within a short time, without particular expulsive effort, it would return practically unchanged. She lived principally on milk; solid food was taken now and then, and returned after about two hours. At the autopsy the only points of interest lay in the œsophagus and stomach. The œsophagus, near the cardiac orifice of the stomach, admitted of the passage of only a small probe; above that point, and nearly up to the level of the thyreoid cartilage, it was dilated to about the size of a quart champagne-bottle. The stomach was decidedly narrowed. The stenosis of the œsophagus was due to a ring composed of small nodular tumors surrounding it, malignant in nature.

Dr. Van Gieson presented a variety of tumors removed from a dog, including a fibroma of the uterus, a sarcoma of the mesentery, an intra-canalicular fibroma of the mamma, etc.

Book Notices.

On the Pathology and Treatment of Spermatorrhœa. By J. L. Milton, Senior Surgeon to St. John's Hospital for Diseases of the Skin. Enlarged and Reprinted from the Original Papers published in the "Lancet" for 1854, and the "Medical Circular" for 1858. Twelfth Edition. London: Henry Renshaw, 1887. Pp. viii–213.

The twelfth edition of this most excellent book is arranged upon the same plan as the eleventh, which was published in 1881 and noticed in our columns in 1882. The whole work has been carefully revised, and some twenty pages have been added. All the author's writings are entertaining and instructive reading, and marked by perfect fearlessness and boldness in advocating his individual ideas. The book is one that should be read by every practitioner; it bristles with histories of cases, gives the author's actual experience with remedies, and tells the reader fully and clearly just how he should proceed in treating a case. No matter whether we may or may not accept all we find between the covers of the book, we recognize that the author is writing in the light of a wide experience and with honest convictions.

Spermatorrhœa, though the subject of the book, is not the only one treated of. The pathology and treatment of impotence, as well as of various complicating affections—such as those of the prostate, the bladder, and the urethra—have more or less space devoted to them. We earnestly commend the book, though it seems to us that the author paints the results of involuntary seminal emissions rather too dark.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

J. B. Baillière & fils, Paris.—J. J. Cornilliac, "Recherches . . . sur la fièvre jaune dans les Antilles et sur la côte occidentale d'Afrique." (8*fr.*) —— Hallopeau, "Traité élémentaire de pathologie générale." (12*fr.*) —— S. Schack, "La physionomie chez l'homme et chez les animaux dans ses rapports avec l'expression des émotions et des sentiments." (7*fr.*)

G. Fischer, Jena.—R. Deutschmann, "Ueber Neuritis optica, besonders die sogenannte 'Stauungspapille' u. deren Zusammenhang mit Gehirn-affectionen." (1*M.* 60.) —— O. and R. Hertwig, "Untersuchungen zur Morphologie u. Physiologie der Zelle." 5. (8*M.*) —— E. Klebs, "Die allgemeine Pathologie." 1. (14*M.*) —— F. Skutsch, "Die Beckenmessung an der lebenden Frau." (5*M.*) —— E. Ziegler, "Lehrbuch der allgemeinen u. speciellen pathologischen Anatomie." 5th ed., 2. (18*M.*)

A. Hirschwald, Berlin.—C. A. Ewald, "Handbuch der allgemeinen u. speciellen Arzneiverordnungslehre." 11th ed. (20*M.*) —— Wernich, "Lehrbuch zur Ausbildung von Heilgehülfen." 2d ed. (2*M.* 40.)

J. U. Kern, Breslau.—F. Cohn, "Beiträge zur Biologie der Pflanzen." iv, 3.

G. Thieme, Berlin.—M. Schmidt, T. Hering, and H. Krause, "Ueber die Heilbarkeit u. Therapie der Larynxphthise." (2*M.*)

Drucker & Tedeschi, Verona.—G. Nuvoletti, "Dell' identità della tisi perlacea dei covini colla tuberculosi umana e della sua contagiosità." (3*l.*)

E Papini, Palermo.—G. Profeta, "Trattato prattico delle malattie veneree." 1, 2. (2*l.*)

BOOKS AND PAMPHLETS RECEIVED.

Medical Electricity: a Practical Treatise on the Applications of Electricity to Medicine and Surgery. By Roberts Bartholow, A. M., M. D., LL. D., Professor of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College of Philadelphia, etc. Third Edition, enlarged and improved. With One Hundred and Ten Illustrations. Philadelphia: Lea Brothers & Co., 1887. Pp. xxiv–17 to 304. [Price, $3.50.]

A Practical Treatise on Impotence, Sterility, and Allied Disorders of the Male Sexual Organs. By Samuel W. Gross, A. M., M. D., LL. D., Professor of the Principles of Surgery and Clinical Surgery in the Jefferson Medical College of Philadelphia, etc. Third Edition, thoroughly revised. With Sixteen Illustrations. Philadelphia: Lea Brothers & Co., 1887. Pp. vii–17 to 172. [Price, $1.50.]

Live Birth in its Medico-legal Relations. Annual Address delivered before the Medical Jurisprudence Society of Philadelphia, January, 1887. By John J. Reese, M. D., Professor of Medical Jurisprudence and Toxicology at the University of Pennsylvania, etc. Printed by the Society, 1887.

Will Contests. By Walter E. Rex, Esq., formerly Register of Wills for the City and County of Philadelphia. Read before the Medical Jurisprudence Society, February 8, 1887. Printed by the Society.

A Report of Analyses of Samples of Water and Ice from the Mississippi, Minnesota, and St. Croix Rivers, made in the Laboratory of the State Board of Health of Minnesota, in November and December, 1886. By Charles Smart, Major and Surgeon, U. S. A. [Reprinted from "Public Health in Minnesota."]

A Sketch of the Management of Pregnancy, Parturition, and the Puerperal State, Normal and Abnormal. By Paul F. Mundé, M. D., Professor of Gynæcology at the New York Polyclinic, etc. Detroit: George S. Davis, 1887. Pp. 110. [The Physician's Leisure Library.]

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M. D.

Optic Neuritis after Head Injuries.—Edmunds's and Lawford's communication ("Ophth. Rev.," Nov., 1886) is based on twenty-four cases of head injury, in which the condition of the optic nerve had been observed either ophthalmoscopically or microscopically. The microscopic evidence of neuritis consisted in a considerable increase of staining corpuscles in the sheath space and in the nerve. The cases were divided into three groups: 1. Cases which ended fatally directly from the severity of the head injury; eleven cases, in four of which there was optic neuritis, were included in this group. 2. Cases which ended fatally indirectly from complications; this group comprised four cases, in two of which there was optic neuritis. 3. Cases of recovery; this group comprised eight cases, in six of which there was optic neuritis. The optic neuritis was attributed to spread of inflammation from the seat of injury to the optic nerves, either along nerve tissue or by the meninges. The authors adopt the latter view for the following reasons: 1. While in some of the cases in which there was optic neuritis basal meningitis was found, it never occurred in those in which optic neuritis was absent. 2. In cases in which the base of the skull or brain was injured there was generally optic neuritis, while in those in which the injury was confined to the convexity of the brain there was not. 3. In some cases of neuritis transverse sections of the optic nerves showed the inflammation most marked at the periphery of the nerves and in the sheath-space.

Ophthalmoplegia dependent upon Thrombosis of the Cavernous Sinuses.—Coupland (*ibid.*) reports a case of this kind in a woman, aged forty-three, who suffered from cerebral symptoms, including bilateral ophthalmoplegia. The patient first had proptosis and more or less complete ophthalmoplegia externa of the left eye, following great supra-orbital pain, succeeded by proptosis of the right eye with ophthalmoplegia externa and interna, but with no distinct ophthalmoscopic changes. The symptoms had commenced with headache and deafness of the left ear four months before any ocular trouble; iridoplegia and strabismus, and then left ptosis, supervened. When admitted into the hospital she was drowsy and the face was dusky. All the signs of paralysis mentioned were present. There were no ophthalmoscopic changes and there was no facial paralysis. Cutaneous sensibility of the left side of the face was impaired. Knee-jerk absent on both sides; no ankle-clonus. No plantar reflex on the right side, and only slight on the left side. Loss of voluntary control over the bladder. The patient died comatose two days later. The autopsy showed basic meningitis of recent date. The cavernous sinuses were plugged with old caseo-purulent and colorless thrombi, as were also the circular and transverse sinuses. The petrosal sinuses were empty. The ventricles were distended with fluid. The ophthalmoplegia, at first unilateral and then bilateral, was explained by the obliteration of both sinuses. The absence of choked disc was attributable to the free inosculation of the facial and orbital veins.

The Unilateral Field of Fixation.—Kahn ("Arch. d'ophthal.," Sept.-Oct., 1886) draws the following conclusions from his investigations: 1. The field of fixation varies with the state of the refraction, being narrow in high degrees of myopia and wide in moderate degrees of hypermetropia. 2. The relation between the amplitude of convergence and the field is not subject to fixed rules. 3. Though the total excursion of both eyes outward is notably greater than the excursion inward, the simultaneous contraction of both internal recti carries it much beyond that of both external recti. 4. In convergent squint the field is sometimes normal and sometimes diminished. 5. The narrowing of the field of the two eyes in non-paralytic strabismus favors the view of a congenital weakness of the muscles. 6. The influence of tenotomy on the field is shown in the majority of the cases. 7. The simple advancement of a muscle increases the size of the field, especially toward the side of the advanced muscle. 8. There is no close connection between the correction of the squint and the change undergone by the field. 9. The refraction, visual acuity, and re-establishment of binocular vision exert a notable influence on the definite extent of the field after operation.

Ulcerative Keratitis in the Form of Stellate Furrows.—Gillet de Grandmont (*ibid.*) describes a form of keratitis characterized by numerous ulcers scattered over the surface of the cornea in the form of a star with four, five, or six rays. This he regards as the primitive form of an ulceration of bacillary origin, which by the development of the colonies of bacilli becomes the "branched keratitis" of Hausen-Grut, or the "keratitis dendritica" of Emmert.

A New Syringe for Washing Out the Interior of the Eye.—Panas (*ibid.*) has devised a new intra-ocular syringe which has the following advantages: It can not be injured by any mercurial or other solution that may be employed, as it is made entirely of glass and hard rubber. It prevents the possibility of any alteration of the liquid used and all soiling of the piston. It has a flat, delicate cannula of hard rubber, which admits of ready introduction into the interior of the eye. It prevents the entrance of bubbles of air into the interior of the eye, and thus admits of a real aseptic injection.

Anatomical and Physiological Researches on the Operations for the Cure of Strabismus.—Kalt (*ibid.*) concludes his subject with a discussion of the operations of advancement of the muscle and advancement of the capsule. As regards the advancement of the muscle, he concludes that the adhesion of the advanced tendon takes place through the medium of the capsule. Hence it is necessary to introduce the needles as far back in the capsule as possible. The effect of the advancement is thus increased, and the tendon is also protected against any injurious action of the suture. In regard to the advancement of the capsule Kalt draws the following conclusions: The capsular advancement may be anatomically demonstrated, for the autopsy shows a fibrous band uniting the body of the muscle to the corneal margin, and shorter than the tendon. This tendon may be folded with some difficulty. The advancement of the capsule ought not to be combined with advancement of the still attached tendon.

The Bacillus of Acute Conjunctival Catarrh.—Weeks's paper ("Arch. of Ophthal.," xv, 4) is based upon his own observations and cultivation experiments. The first case occurred in a woman, aged thirty, in whom there was a rather profuse muco-purulent discharge. Weeks made a dry cover-glass preparation of the secretion, stained it with gentian violet, and examined the specimen with a one twelfth oil immersion. The examination disclosed large numbers of small well-defined bacilli, which were aggregated on and in the pus cells, and free in the mucus. He then examined the secretion from the eyes of five persons in one family affected with acute conjunctival catarrh, and found the bacilli in all. He then determined to ascertain positively the contagiousness of the secretion by inoculating healthy conjunctivæ with secretion from an affected eye. At first rabbits were used, but no conjunctival inflammation was induced. He then inoculated the healthy conjunctivæ of six eyes in five men who had previously lost their vision. In five of the six eyes inoculated the same form of conjunctivitis was produced, the bacilli being found in the secretions. Weeks has observed about one hundred cases of this disease since March, 1886. Attempts were made to cultivate the small bacillus on agar-agar and gelatin, in tubes and on plates, but the bacillus did not develop. On particles of pus transferred to the tubes the bacillus developed rapidly, but could not be induced to feed on the agar-agar. A mixture was then prepared containing only about 0·5 per cent. of agar-agar, and the bacillus developed feebly in this preparation in tubes. The bacillus in the tubes was contaminated with a club-shaped bacillus, and repeated attempts to separate the two proved fruitless. On the one third per cent. to one half per cent. solution of agar-agar in tubes, the bacillus with its contamination was carried to the sixteenth generation. Although repeated attempts have been made to cultivate this small bacillus on sterilized blood-serum, they failed to carry it beyond the second generation. It developed rapidly in beef-tea, and very feebly on potato. On agar-agar but little growth can be seen during the first twenty-four hours. At the end of forty-eight hours a slight haziness appears along the track of the needle, and on the surface of the agar-agar a small elevation is noticeable, of a pearly color and glistening surface. By the formation of concentric colonies, the growth extends for a short distance from the point of puncture on the surface of the agar-agar. The growth reaches its height in from five to seven days, at which time the above-described appearances are but slightly exaggerated. The bacillus then gradually degenerates, breaking up into small particles. The one-half-per-cent. agar-agar is the best medium yet found on which to cultivate this bacillus. An even temperature of from 34° to 37° C. is most favorable for the development of this microbe; it is also necessary to have abundant moisture. The bacillus varies considerably in length, being from one to two micro-millimetres long; in thickness it is always the same—about 0·25 of a micro-millimetre. In preparations from cultivations on agar-agar, Weeks has observed a number of the bacilli joined, forming quite long threads, but there was never any tendency to a double arrangement as in *Bacillus subtilis* or in Leber's bacillus of xerosis of the conjunctiva. The bacillus under consideration stains readily with watery solutions of fuchsin, gentian violet, and methylen blue. There is nothing peculiar to this bacillus in the effect produced upon it by the various acids, alkalies, alcohol, chloroform, or ether. A number of inoculations of the human conjunctiva have proved to the satisfaction of the author the innocence of the clubbed bacillus in the production of acute conjunctivitis. The bacillus in question is present in these cases of acute catarrhal conjunctivitis as long as the yellowish discharge persists. Sections of the conjunctiva in some of the cases, obtained by cutting out small portions from the lower *culs-de-sac*, showed the bacilli in rather scanty numbers in the anterior layers of the epithelium, either singly or in small colonies lying between the cells. Some leucocytes or pus-cells found in the epithelial layer showed the bacilli apparently in the interior as well as on the surface of the cells. Weeks has never met with this bacillus except in the form of acute conjunctivitis just described.

The Micro-organism of the so-called Egyptian Ophthalmia (Trachoma-coccus).—Michel (*ibid.*) has been making some investigations into the nature of an eye-disease which had broken out in the Boys' Orphan Asylum at Aschaffenburg. The number of inmates was 97. Of these, 28 were not affected, 55 were slightly affected, and 14 were severely affected; and of these last, 7 were affected in an especially intense manner. The average age of the boys was about thirteen years. The picture of the disease in general was characterized by the presence of circumscribed nodular elevations designated as follicles, granulations, or granules. These were found most abundantly in the retro-tarsal folds chiefly of the lower lid, and on the tarsal conjunctiva of the upper lid. There are three gradations of the disease to be recognized, and among these different forms there was a series of transitions. The conclusion is evident that the same noxious influence can call forth forms of disease which clinically differ uncommonly in severity. The view that the so-called "follicular conjunctivitis" and trachoma, or the so-called Egyptian ophthalmia, are different pathological processes must be given up. The swelling of the pre-auricular glands is without doubt in intimate relation with the disease of the conjunctiva. It is sometimes unilateral, but is usually present on both sides. The enlarged glands were never painful and were moderately soft and elastic. There exists, without doubt, a direct connection between the lymph-vessels of the conjunctiva and the pre-auricular glands, and we may also assume that the lymphatics of the skin of the lid are likewise in connection with the pre-auricular gland. We know that there also exists a direct communication between the lymph-vessels of the outer skin and of the conjunctiva of the lid. The so-called Egyptian ophthalmia is therefore distinguished clinico-anatomically also by the fact that the pathogenic material is received into the lymphatics of the conjunctiva, and thence conducted to the neighboring lymphatic glands. It is probable, at least in the severer cases, that the lymphatic vessels of the skin of the lid are implicated. The bacteriological results of the investigations may be summarized as follows: 1. The trachoma-coccus is found in the tissue of the conjunctival follicle. 2. Morphologically, the trachoma-coccus is a diptococcus of the shape of a double roll, and distinguished by its minuteness and the slight development of the dividing line. It stains with all basic aniline colors, and possesses no individual movements, though, on the other hand, a rotary and oscillating movement can be demonstrated. 3. In puncture cultivations the trachoma-coccus grows as a glistening, whitish turf, with at first a slight mixture of gray, and spreads chiefly on the surface. The gelatin never becomes liquefied. Afterward the cultivations assume a light-yellowish color, and there is retraction of the surface in the test-tubes charged with gelatin. 4. In blood-serum it grows along the inoculation punctures in ribbon-shaped, white streaks, and spreads out in little white clouds; the same in plate cultivations. 5. On potato the growth is very scant. 6. The increase in growth is in general the most rapid at a higher temperature. 7. Inoculation of particles of a pure cultivation by puncturing the human conjunctiva produces typical trachoma. The micro-organism, either at a wounded spot of the epithelium, or perhaps even through the uninjured epithelium, penetrates directly into the cytogenic tissue and here produces a hyperplastic enlargement of the lymph-follicles, eventually leading to new formation of follicles. As regards treatment, the patient, as well as the doctor, must learn to regard the so-called Egyptian ophthalmia as an infectious disease. At the outbreak of such an endemic in closed apartments, not only must there be a separation of the healthy from the diseased, but a copious disinfection of the rooms in use, the linen, etc., must be undertaken. Locally, a disinfection of the conjunctival sac should be made many times a day with a solution of mercuric bichloride (1 to 5,000). Massage of the lids should be performed once a day, after application of an ointment composed of yellow mercurial precipitate, 0·05, in vaseline 10. When the secretion is purulent and proportionally copious, and the conjunctiva is spongy, nitrate of silver is to be employed in solution (0·1 to 10) or in combination with vaseline. When the papillæ are exuberant, sulphate of copper must be employed. When medicaments fail to effect a cure, Michel advises incisions of the conjunctiva and squeezing out of the contents of the follicles, or the use of the thermo-cautery and sharp curette.

Miscellany.

Adhesive Plaster.—Dr. Addinell Hewson recently gave a description of a method of preparing adhesive plaster: Bookbinders' paste, which in its pure and clean state is simply a wheaten flour paste, made in a porcelain crock by boiling thoroughly one part of flour in three or four parts of cleanly filtered water, always for twenty minutes, stirring the mixture all that time by a clean, new wooden or bone spatula, is applied by a thin strip of wood directly to the bare, clean integumentary surface of one of the edges which are to be secured, and then one end of a strip of gauze is to be laid on it and rubbed gently and smoothly so that the paste will come through its meshes. It should be applied no nearer the edge of the wound than collodion would be. It dries as quickly as the latter, and has, indeed, the advantage of always drying fast even, on a moist or dampened surface—a property wanting in liquid glass as well as glue, even where expedients have been previously used to dry the parts. When the end of the strip first applied is fixed by the paste, some of the latter is to be put on the other side of the wound, and the gauze strip drawn smoothly across it and pressed on that side, the surgeon watching the contact of the lips as to how well it is secured, rectifying any irregularity to be seen through the meshes by a probe. Sometimes in a long wound it may be advisable to secure the initial extremities of the gauze strips alternately on both sides. On other occasions it may be better to fix them on one side and draw all by their free extremities across, and so get equal amount of traction and tension in that way. The paste, when made strictly according to the directions I have given, and kept covered in a dry place, will not sour, and such paste can be made the vehicle of various kinds of antiseptics and disinfectants. By the addition of a small quantity of corrosive sublimate (one grain to a pint) immediately after it is fully boiled, it effectually prevents the germination and development of various kinds of microbes wherever it may be applied.—*The Polyclinic.*

Terebene and the London Apothecaries.—A correspondent of the "British and Colonial Druggist" says: "I am, as you are aware, 'connected with the trade'—the last word should perhaps have been 'profession,' but that will not affect the value of my narrative. Staying in London for a few days was a friend of mine, and as one evening this week we were investigating the mysteries of the metropolis it became apparent that his interest was beginning to flag. With the instinct of a pharmacist who may one day have to prescribe in order to pay his rent and taxes, I soon detected reflections of physical pain in the countenance of my companion. Ably following up the symptoms, I arrived at the truth—stomachic inflation. Good! Terebene indicated. Get some. To the nearest chemist we went. He was busy. Happy man! Five real customers in his establishment at one time. Not revealing 'my connection with the trade,' I modestly preferred a request for five drops of terebene in a little water. 'Terebene?' quoth the professional gentleman behind the counter. I assented. 'Terebene?' he repeated; 'what for?' 'Flatulence.' He smiled broadly. 'Terebene!' he continued. 'I've heard of "Terebene Soap."' Again smiling in a manner which plainly meant 'I am a man of superior knowledge, but I'll give you another chance,' he inquired, 'Are you sure it's *terebene?*' I was. Then came his thunderbolt. 'Why, terebene's a kind of turpentine. You don't want to take that internally.' I was crushed and we retired.

"We had an almost similar experience in the next pharmacy we went to, and I was there told I must be mistaken about the name. I must mean 'peppermint.'

"Three more establishments were visited, but none of them had terebene in stock. All these five pharmacies were in the W. C. district, and in selecting these to call at I avoided, after my interview with the 'Terebene Soap Man,' several shops of inferior size as being unlikely places to get what I wanted."

The University of Vienna.—According to the "Revue générale de clinique et de thérapeutique," Dr. Max Gruber, of Gratz, has been nominated for the professorship of hygiene at Vienna.

The University of Berlin.—The "Lancet" states that Dr. Olshausen, of Halle, has accepted an invitation to fill the late Professor Schroeder's chair of obstetrics, and will begin his lectures on the 1st of May.

The Windham County, Conn., Medical Society.—At the recent annual meeting, held in Putnam, at which the attendance was large, Dr. J. B. Kent, of Putnam, read an essay, and officers and delegates were elected as follows: President, Dr. Charles J. Fox; vice-president, Dr. F. G. Sawtelle; secretary and treasurer, Dr. Charles N. Allen; censors, Dr. W. A. Lewis, Dr. T. M. Hills, and Dr. E. H. Davis; county medical reporter, Dr. R. Robinson; delegates to the State Medical Society, Dr. T. R. Parker, Dr. Lowell Holbrook, Dr. R. Robinson, Dr. W. A. Lewis, and Dr. H. L. Hammond (alternates, Dr. F. O. Bennett, Dr. E. E. Gaylord, Dr. N. Hibbard, Dr. E. H. Davis, and Dr. E. D. Kimball); delegates to the American Medical Association, Dr. E. A. Hill, Dr. T. M. Hills, and Dr. F. G. Sawtelle; essayist for 1888, Dr. W. W. Foster (alternate, Dr. O. B. Griggs). The next annual meeting will be held in Willimantic.

The Health of Boston.—During the week ending Saturday, April 23d, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 19 cases and 5 deaths; scarlet fever, 29 cases and 2 deaths; typhoid fever, 26 cases; measles, 38 cases and 1 death. There were also 24 deaths from consumption, 23 from pneumonia, 3 from whooping-cough, 19 from bronchitis, 20 from heart disease, and 7 from marasmus. The total number of deaths was 203, against 190 in the corresponding week last year.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality," for the month of March, the whole number of deaths reported during the month was 445, including 1 from cholera infantum, 20 from croup and diphtheria, 3 from cerebro-spinal meningitis, 2 from diarrhœa, 1 from dysentery, 3 from erysipelas, 9 from typhoid fever, 1 from whooping-cough, 2 from pyæmia, 2 from septicæmia, and 2 from scarlet fever.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending April 21st:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending April 2d corresponded to an annual rate of 21·6 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Brighton, viz., 14·6, and the highest in Blackburn, viz., 33·1 in a thousand.

During the year 1886 there were recorded in the twenty-eight great towns 300,635 births and 189,629 deaths, the proportion being 33·2 and 20·9 in a thousand of population respectively. The birth rate was the lowest since 1850, and the death rate lower than any previous year excepting 1885. The death rate varied greatly in the different towns, ranging from 17·1, in Brighton, to 28·9, in Preston.

London.—One thousand five hundred and eighty-eight deaths were registered during the week ending April 2d, including 85 from measles, 6 from scarlet fever, 14 from diphtheria, 31 from whooping-cough, 1 from typhus fever, 8 from enteric fever, and 12 from diarrhœa and dysentery. There were 417 deaths from diseases of the respiratory organs. Different forms of violence caused 70 deaths, and 9 suicides were registered. The deaths from all causes corresponded to an annual rate of 19·7 in a thousand. In greater London, 1,997 deaths were registered, corresponding to an annual rate of 19·2 in a thousand of the population. In the outer ring, 27 deaths from measles, 9 from whooping-cough, and 5 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending April 2d, in the sixteen principal town districts of Ireland, was 30·6 in a thousand of the population. The lowest rate was recorded in Armagh, viz., 5·2, and the highest in Lisburn, viz., 43·5 in a thousand.

Dublin.—Two hundred and twelve deaths were registered during the week ending April 2d, including 4 from measles, 4 from scarlet fever, 1 from typhus fever, 3 from whooping-cough, and 4 from enteric fever. Diseases of the respiratory organs caused 49 deaths. In twenty-nine instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 31·3 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending April 2d was 23·5 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Leith, viz., 11·5, and the highest in Aberdeen, viz., 31·5 in a thousand. The aggregate number of deaths registered from all causes was 588, including 43 from measles, 6 from scarlet fever, 8 from diphtheria, 31 from whooping-cough, and 18 from diarrhœa.

Guaymas.—Twenty-four deaths were registered during the month of March, including 1 from small-pox.

Nice.—One hundred and nineteen deaths were registered during the two weeks ending March 15th, including 9 from small-pox, 3 from scarlet fever, and 2 from enteric fever.

Montevideo.—Three hundred and thirty-five deaths were registered during the month of February, 1887, including 57 from cholera, 2 from small-pox, and 3 from enteric fever.

Callao.—The United States Consul, under date of March 6, states that "there is as yet no appearance of cholera in Peru. Some cases have been reported on the eastern interior frontier of Bolivia, doubtless proceeding from the Argentine Republic, and energetic measures were being taken to prevent the spreading of the disease. . . . Should the presence of cholera become more manifest in Bolivia, the necessary sanitary precautions will be adopted toward that republic. Later advices, however, state that the reports alluded to are unfounded." The consul also incloses copies of official cable messages from Chili, as follows:

"*Santiago, March 4th.*—From the inception of the cholera epidemic 2,458 victims of the pestilence have been interred. In the twenty-four hours there have been 27 cases (new) and 35 deaths. Number of cases now, 152. The cholera is decreasing."

"*Valparaiso, March 4th.*—Ten new cases and 6 deaths have occurred within the last twenty-four hours. Number of cases now, 35."

"*Quillota (between Santiago and Valparaiso), March 4th.*—Cholera has made its appearance here."

"*Santiago, March 5th.*—Cholera diminishing. Fifty-nine cases yesterday; 34 deaths."

And the following cable message sent to a prominent business house at Lima:

"*Valparaiso, March 4th*, 5.15 P. M.—Cholera rapidly decreasing. Cases at Santiago, 195; Valparaiso, 39; provinces, 99."

Lima.—The United States minister, in his dispatch dated March 21st, states that . . . "it seems the only way in which our ships now on the Chilian coast can gain admission to Peruvian ports is by obtaining entry to some uninfected port north of Panama, and clearing from there with a clean bill of health. . . . No case of cholera, so far as known to me, has occurred at any port north of Valparaiso; yet, so great is the concern felt along the coast that it is apprehended, owing to unfounded rumors, and I might almost say the sanitary craze, that Panama may close against the Peruvian ports, thus cutting off supplies, resources, and the mail connections from the outside world. Peru has quarantined also against Guayaquil; but this is quarantine—not prohibition—on account of yellow fever there. The steamer which came in this week was kept in quarantine at Callao for several days because some man died on board, though from what I gather there was only a suspicion that it might have been from yellow fever."

Corea.—The United States *chargé d'affaires ad interim* at Seoul, under date of February 25, 1887, reports that "a contagious and infectious disease, 'yin pyung' (relapsing or famine fever, plague, etc.), is now epidemic in the southern provinces of Corea. This disease is endemic in parts of the country (Corea) the year round. It is fatal in about 30 per cent. of the number attacked. It is more dreaded than is small-pox, and ranks next to the cholera in the minds of the people."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM— Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Calcutta	February 26.	433,219	198	22	....	....	....	....	....	....
Calcutta	March 5.	433,219	235	49	....	....	....	...	....	2
Guayaquil	March 17.	35,000	61	..	10	10	....	22	....	....
Paris	April 2.	2,260,045	1,260	..	....	6	....	51	4	40
Warsaw..........	March 26.	431.572	215	..	....	12	....	....	....	....
Havre............	April 2.	112,074	49	..	....	2	....	1	...	....
Rome............	February 19.	364,511	199	.	....	4	....	2	....	7
Palermo	April 3.	250,000	119	..	....	....	....	3	7	4
Bremen..........	March 26.	119,000	47	..	....	....	....	...	2	2
Munich..........	March 26.	269,000	133	..	...	....	....	....	1	4
Leipsic...........	April 2.	170,000	63	..	...	...	...	1	2	4
Amsterdam	April 2.	373,690	214	..	....	...	2	....	1	6
Glasgow	April 2.	545,678	275	..	...	...	....	....	3	3
Belfast...........	April 2.	224,422	134	..	....	...	1	....	1	1
Reims	April 2.	98,083	45	..	....	1	...	....	1	2
Toronto..........	April 9.	120,000	27	..	....	....	....	....	....	2
Leghorn	April 3.	101,172	54	..	....	.. .	....	...	....	....
Cape Haytien....	April 2.	10,000	3	..	....	....	....	....	....	...

THERAPEUTICAL NOTES.

The Physiological Action and Therapeutical Uses of Methylal.—"For some time past," says the Paris correspondent of the "British Medical Journal," "therapeutists have sought for a new hypnotic among acetals. Methylal, which belongs to that group, was first classed by M. Malaguti in 1839. It is highly volatile, boils at 42° C. (107·6° F.), has a density of about 0·85, and is soluble in water, alcohol, and oil. M. Personali's experiments proved that methylal rapidly induced sleep in frogs after a dose equal to 50 per cent. of their own weight; in rabbits after a dose of 25 per cent. of their weight; in birds after a dose of 20 per cent.; and in dogs after a dose of 10 to 16 per cent. A dose of a gramme and a half caused death in a pigeon. Methylal is rapidly eliminated. It modifies the action of the heart, and increases the number of its beats during hypnosis. It lessens arterial pressure, and at the same time lowers the temperature; it reduces the activity of exchange in the tissues, while it modifies the circulation and respiration. If methylal be administered to a warm-blooded animal at the beginning of strychnine poisoning, the tetanic convulsions are checked, and, the poison being eliminated, the animal may recover. In the case of cold-blooded animals, in which the process of elimination takes a considerable time, the toxic phenomena are suspended while the action of the methylal lasts, and reappear when it has ceased. Methylal may be administered without difficulty either hypodermically or by the mouth. M. Nicot proposed to administer it externally, prepared with oil of sweet almonds, in the form of a liniment composed of 85 grammes of the excipient to 15 grammes of methylal; or with alcohol at 80, in the proportion of 10 grammes of methylal to 110 grammes of alcohol and 5 grammes of essence of lavender. An ointment might be made with methylal, containing 33 grammes of fatty material and 5 grammes of the medicament; and an application for toothache might be made with 2 grammes of methylal in a suitable excipient. A draught might be made of 1 gramme of methylal mixed with 150 grammes of water and currant syrup; a syrup with 1½ grammes of methylal to 100 grammes of golden syrup; and an injection with 1 gramme of methylal in 125 grammes of gum-water."

Potassium Chlorate in the Treatment of Epithelioma.—This method of treating epithelioma, which was brought forward in 1847, and again in 1857 and in 1863, and successively abandoned, has lately been resorted to again by M. Reclus ("Gaz. des hôp.," Mar. 1, 1887; "Rev. gén. de clinique et de thérap.," April 14, 1887), who has had four successes with it, together with some failures. His conclusion is that it has no effect on epitheliomata seated on mucous membrane or at the junction of skin and mucous membrane, but that it is efficient enough to be tried on cutaneous epitheliomata in patients who are too feeble to endure excision or who decline to do so. He applies a supersaturated (six-per-cent.) solution.

The Aniline Treatment of Phthisis.—According to the "British Medical Journal," a committee appointed by the Moscow Congress to investigate the value of Professor Kremianski's proposal has now issued its report. The members, Dr. Ostrumoff, Dr. Subotin, Dr. Shervinski, Dr. Klein, Dr. Vogt, and Dr. Bogoslovski, first made a number of experiments on animals in Professor Bogoslovski's laboratory, introducing the aniline combined with oleum gaultherii into the blood directly, subcutaneously, and by means of inhalations with Professor Kremianski's apparatus. Instead of this being followed by no ill effects, or only very slight ones, as the professor believed would be the case, all the animals died a few hours after the introduction of aniline with symptoms of paralysis of the respiratory center, even when very small quantities of aniline had been administered. When given to patients it caused them extreme disgust, and appeared to be utterly useless from a therapeutic point of view. The committee, therefore, has decided to make no further investigations on the subject.

Opium and Belladonna in the Treatment of Diabetes.—Villemin ("Semaine méd.," 1887, No. 7; "Ctrlbl. f. die ges. Therap.," April, 1887) gives the history of a case in which the symptoms were repeatedly and strikingly controlled by the use of these two drugs, quite irrespective of the diet. The influence of opium in this disease is well recognized, but the author satisfied himself that in his case the effect was not due to either drug alone, but to the combination.

Original Communications.

A SUCCESSFUL CASE OF CÆSAREAN SECTION.

By WILLIAM T. LUSK, M. D.

Bridget Curry, primipara, aged twenty-four, domestic, Ireland, was sent to me, from the country branch of the Mother's Home on Staten Island, by Dr. O'Reilly, the attending physician, because of marked pelvic deformity. The patient entered my service at the Bellevue Hospital on March 21, 1887. She had menstruated last early in the previous July, and was presumably in the ninth month of pregnancy. She was suffering from lameness due to hip disease, which dated from her eleventh year. At that time sinuses had formed in the neighborhood of the right acetabulum from which there had been a discharge, which had continued for some time, and for which she had been sent to a hospital in Dublin for treatment. A cure had been then effected, but during the latter months of her pregnancy fresh suppuration with sinus formation, and purulent discharge, had taken place at the site of her previous trouble.

On the 22d of March I visited her at the hospital, with a view to making a careful measurement of the pelvis, in order to decide upon the proper course to pursue. The woman was, however, found on my arrival to be already in labor. The pelvic measurements were as follows:

Distance between the anterior spines....	21·5	centimetres;
Distance between the cristæ ilii........	24	"
External conjugate....................	16	"
Distance between the anterior and posterior spines (right side).............	14½	"
Distance between the anterior and posterior spines (left side).............	16	"
Diagonal conjugate	9	"
Internal conjugate (estimated)....	7·5	"
Distance between the ischia............	6·5	"

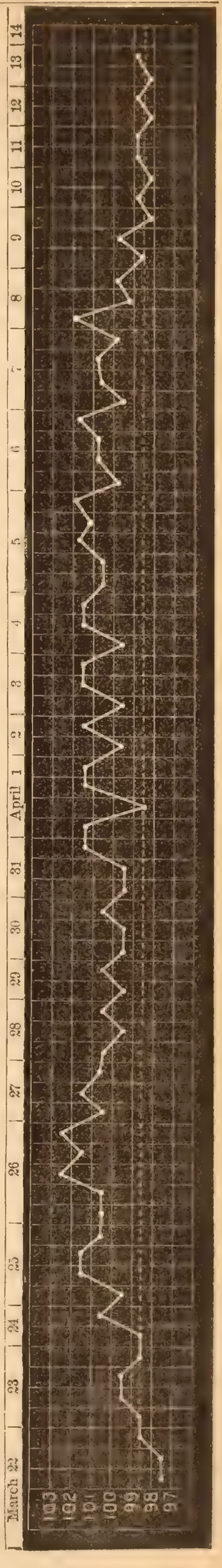
The shortening of the right leg (measured from the trochanter to the malleolus) amounted to 4 centimetres. The pelvis belonged to the oblique variety. On the right side the iliac bone ran in a nearly straight line, and on the left the curve was greatly diminished.

The promontory projected to a marked degree into the pelvic space. While with these dimensions it did not seem impossible to remove the child by craniotomy, still the risks of extracting the child through the natural passages, owing to the combined transverse and antero-posterior narrowing, I concluded would equal if not exceed those to which the woman would be exposed if subjected to Sänger's operation—*i. e.*, the old Cæsarean section, modified by the employment of an exact series of deep muscular and superficial peritoneal sutures for the closure of the uterine wound. In this decision I was sustained by Dr. I. E. Taylor and Dr. Garrigues. The examination took place about noon, and at once, in all haste, preparations were made for the operation. As the private pavilions were both in use at the time, it was necessary to operate in one of the public wards of the hospital without preliminary disinfection.

The operation was begun at 3.30 P. M. Dr. Garrigues kindly assisted me. His thorough knowledge of each step in the operation proved of great value to me. The incision through the abdominal wall extended from a point three inches above the navel to within two inches of the symphysis pubis. The uterus was then tilted with its left border to the front, and everted from the abdominal opening by firm downward pressure upon the abdominal walls. After the uterus had been turned out, the intestines were retained by a large, flat sponge placed behind the uterus and beneath the abdominal parietes. A piece of rubber tubing was placed around the lower segment to control hæmorrhage.

The exposed uterus was wrapped in towels, wrung out in a warm corrosive-sublimate solution (1 to 5,000), which were replaced at short intervals. A short incision about two inches in length was first made in the median line near the lower uterine segment. The tissues were divided slowly and with care until the membranes were exposed. Then with scissors the incision was rapidly extended upward toward the fundus until an opening five inches in length was obtained. As the uterus contracted, the membranes formed a hernial protrusion from the wound. Owing to the elastic ligature the incision was nearly bloodless. While Dr. Garrigues drew the abdominal walls tightly around the uterus, to protect the peritoneal cavity, the membranes were ruptured. The child presented by the head, in the left occipito-anterior position. A knee was seized, and the child was rapidly extracted. It weighed five pounds and a half, and was deeply cyanosed, but was happily resuscitated by my friend, Dr. A. B. Ball. The separation of the membranes and placenta was accomplished by tractions upon the protruding sac, and by means of two fingers inserted between the decidua and the uterine walls. This act furnished a beautiful demonstration of the fine cobweb-like processes described by Leopold, which connect the decidua with the residual portion of the mucous membrane which remains adherent to the uterus. The uterine cavity was carefully sponged with a corrosive-sublimate solution (1 to 10,000). With the removal of the child and the subsequent retraction of the uterus, it became necessary to employ towels, rendered aseptic by immersion in warm corrosive sublimate solution, to keep back the intestines. Owing to the arrest of the circulation by means of the elastic ligature, the uterus presented a pale, waxy appearance.

In the closure of the wound carbolized silk was used. Ac-



cording to Dr. Taylor's count, thirty-four sutures in all were employed. Of these, probably sixteen were deep and the others superficial. The deep sutures were introduced about a third of an inch from the cut border, and were passed obliquely inward, so as to avoid impinging upon the mucous membrane. The superficial sutures were inserted at short intervals, to secure complete approximation of the peritoneal surfaces. The Lembert stitch was employed. No lifting of the peritonæum nor resection of muscular tissue was found necessary. When the temporary ligature was removed, the blood slowly returned to the pallid organ, which, from a waxy white, became at first suffused with a pale pink, the color then gradually deepening to a rose-red, and finally to a dark-purple hue. A little oozing from a stitch-wound at the placental site was observed as the blood returned to the organ. After twenty minutes, during which hot-water applications, pressure, and deep sutures at a right angle to the bleeding stitch were vainly resorted to to arrest the oozing, the uterus was returned to the abdominal cavity, a drainage-tube was inserted behind the organ, and the abdominal wound was closed by ten silver sutures. Owing to the extreme contraction of the antero-posterior pelvic diameter, there was no room for the drainage-tube in the *cul-de-sac* of Douglas.

At the close of the operation the patient's condition was excellent. The time occupied was one hour and fifteen minutes. For two days subsequent to the operation the temperature was below 100°. At the beginning of the third day the temperature (afternoon) rose to 100·5°. On the fourth day there was considerable tympanites, which was relieved by three grains of calomel followed by a Seidlitz powder and an ox-gall enema. The highest temperature (102·8°) occurred on the fifth day, but fell, however, to 100·5° after a large spontaneous evacuation of the bowels. On the sixth day the temperature was 99·5°. As the serum from the abdominal cavity had become colorless, the drainage-tube was withdrawn. On the seventh day the abdominal stitches were removed. On March 31st the temperature was 101·6°. Upon a careful examination, pus was detected in the line of the incision. The pus was evacuated and the wound dressed with iodoform gauze. On the 9th of April a large abscess was found at the site of the old sinuses over the right hip. After lancing the abscess the temperature fell to the normal point, and no further disturbance took place. From the second day the patient took an abundance of liquid food, with tea, toast, and eggs by the end of the week. There was no vomiting or other gastric derangement. The patient sat up at the end of the fourth week, and her condition was greatly improved as compared with that which existed previous to the operation. Indeed, had it not been for the symptoms resulting from the hip-complication, the period of puerperal convalescence would have compared favorably with that following an easy natural labor. The child was weighed on the 24th of April, and was found to have gained three pounds and a quarter.

Too great praise can not be given my house physician, Dr. L. M. Silver, for the intelligent care he bestowed upon my patient.

SOME UNSOLVED CLINICAL PROBLEMS.*

By W. H. FLINT, M. D.

URGING, as my excuse for the presentation of too small a number of observations to be of any value for purposes of scientific generalization, the fact that one of the objects of our society is the rescue of *isolated* clinical experiences from the oblivion into which they must fall if merely recorded in the note-books of individual practitioners, I pledge myself to always offer at the common altar such fruits of personal observation as may not seem unworthy of a place on our monthly clinical banquet-table.

It is the part of simple discretion to preface my remarks by this promissory note, drawn in favor of my fellow-workers, lest their patience be exhausted by a communication whose nature is chiefly interrogatory, and the main object of which is the eliciting rather than the imparting of information.

The cases to which I invite your attention are still under my observation, and I shall await, with interested expectation, the suggestions of my *confrères* regarding ætiology and indications for treatment, promising any one, who may be interested, to report the results of further observation, together with such conclusions as the premises may seem to justify. Certain facts in each history seem to point to some trophic or other disturbance of the vascular apparatus, regarding the nature of which enlightenment would be particularly desirable.

The first case is one the characteristic feature of which is intermittent, asymmetrical œdema:

The patient, Mrs. R., aged twenty-nine, first came under my care in 1880. Her family history presents nothing of importance. She has never had rheumatism, syphilis, or malaria, has led a temperate life, and been blessed with general good health. She has had no children, but had two abortions ten years ago, since which pregnancy has not recurred. My professional aid was first sought by the patient in 1880 for the relief of an attack of chronic bronchitis, attended by marked bronchorrhœa. A careful examination showed everything to be normal, with the exception of the bronchitis, slight cervical endometritis, and moderate anæmia. The urine was quite normal and no heart lesions existed. After a month's treatment the diseased conditions alluded to had disappeared, and the patient was apparently well, when, on awaking one morning, after a night of tranquil sleep, Mrs. R. found the fingers of her right hand markedly œdematous. There was neither pain nor redness. There was no evidence of undue pressure or restraint having been exerted upon the right arm or hand during sleep. The œdema disappeared without treatment in a few hours. The urine was entirely normal. The patient subsequently enjoyed perfect health until July, 1882, when she had a more pronounced attack of œdema, which developed suddenly without known cause, involved the right hand and arm, and disappeared in two days, the only treatment being with a mild alkaline diuretic. The urine was normal and the heart's action undisturbed. There was slight anæmia, which soon yielded to iron. In August, 1883, there was an attack of anasarca, after exposure in sea-bathing, accompanied by emesis and semi-coma, apparently of hysterical character. At this time there was no albuminuria, and a quantitative analysis showed a normal amount of urea. The acetate of potassium was used, diuresis resulted, and the anasarca vanished in a few days. Since 1883 attacks similar to those described have frequently recurred, although the patient's general health has been excellent. My history-book records the following attacks: In October, 1883, involving the left leg and foot; in March, 1884, involving both arms; in July, 1884, involving the left arm and hand, with partial anæsthesia of the parts; in August, 1884, involving the left thigh and both hands; in December, 1884, affecting the eyelids and the right hand; in April, 1885, involving the right hand and forearm; in October, 1885, affecting both hands and both feet; in July, 1886, causing hydroperitonæum and general anasarca; in October, 1886, involving the left leg and foot; on January 5, 1887, affecting the face and the left foot.

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* Read before the New York Clinical Society, January 25, 1887.

I have not entered into the details of the treatment in individual attacks, because no single remedy has seemed superior to any other. The œdema has invariably disappeared in a few hours or days, whether treatment was active or purely expectant. Ergot, digitalis, iron, the iodides, purgatives, and diuretics have all been tried, and in each instance the œdema has vanished with surprising celerity.

There have been no local capillary congestions indicative of vaso-motor paresis. Anæmia has not been so marked at any time as in many cases unaccompanied by œdema.

Renal and cardiac disease have been excluded by careful and repeated examinations. Albuminuria has never existed, no casts have ever been found, and the urea has averaged between six and eight grains to the ounce. The pulse has been regular and of average strength and frequency. Careful search has failed to show any morbid growths the pressure of which could produce local venous hyperæmia. There have been no hæmorrhages, nor has there been any increase of arterial tension or rigidity of the superficial arteries. The only ascertained condition apparently having any constant ætiological relation to the symptoms was chilling of the surface from draughts or cold baths, such exposures having preceded some of the attacks.

The fact which has most impressed me in the case is the apparent proneness of the vascular walls, whether of the bronchial, of the cutaneous, or of the peritoneal vessels, to permit the effusion of the watery constituents of the blood, somewhat as the renal capillaries do in chronic nephritis. Being at a loss for a theory as to the causation of the difficulty, and noticing a tendency to more frequent recurrence of these attacks, I hope that my fellow-members may make some helpful suggestions as to ætiology and prophylaxis. I should also like to inquire whether there are any recorded cases of this kind in which post-mortem examinations of the vessels have been made.

My next case is that of a lady, slightly past middle age, of gouty and diabetic ancestry, but who has never suffered from gout, rheumatism, or venereal disease.

In the spring of 1886 she was attacked by diabetes. She had great thirst, a ravenous appetite, loss of flesh, burning on micturition, and polyuria. The urine presented the characteristic appearances of diabetes, and contained large quantities of sugar, but no albumin, and no casts. The iodide of calcium was administered in three-grain doses, thrice daily, and a strict anti-diabetic diet enforced, with the result of quickly causing the disappearance of the symptoms. Simultaneously with the subsidence of the polyuria and the glycosuria, albuminuria developed, and hyaline and granular casts appeared. As the specific gravity was not low, averaging from 1·022 to 1·026, and the urea averaged from seven to nine grains to the ounce, it was not considered necessary to adopt other measures, and the anti-diabetic regimen, with the iodide of calcium, was continued. Within a week the diabetic symptoms returned, and they persisted, with alternate amelioration and aggravation, during the entire summer of 1886. The patient resided in the country meantime, probably did not strictly adhere to the prescribed diet, and was unavailingly treated with nux vomica, alkalies, and Fowler's solution. At the middle of October there was no change, and ergot was prescribed. At the end of October the symptoms were even more marked. Eighty-four ounces of urine were daily evacuated, and there were 4·80 grains of sugar to each ounce, with only 3·64 grains of urea, and with large quantities of oxalate of calcium and of uric acid. The anti-diabetic diet was enforced, the patient being in town and subjected to closer supervision, and the arsenite of bromine was prescribed. On November 9th the quantity of urine was reduced to sixty-nine ounces *per diem*, the sugar to 3·94 grains to the ounce, and the urea raised to 10·60 grains to the ounce.

On November 27th the urine was reduced to fifty ounces and the sugar had disappeared, and there were 8·44 grains of urea to the ounce; but albumin had again made its appearance, and small hyaline and granular casts were discovered. There was also an excess of uric acid. On December 7th the conditions were reversed. There were fifty-eight ounces of urine, which had 4·08 grains of sugar to the ounce, and a large quantity of uric acid, but neither casts nor albumin. On December 17th there was an immense increase of urea (thirteen grains to the ounce) and of urine, which rose to seventy-eight ounces, while the amount of sugar had risen to 5·76 grains to the ounce. The specific gravity was 1·030, and uric acid was present in enormous amounts. The patient had become considerably emaciated. As she confessed to recent violations of the prescribed dietetic rules, all medication was now stopped, and the strictest anti-diabetic regimen insisted on. The result was most satisfactory, for, on January 7th, there was neither sugar, albumin, nor casts. The total quantity was fifty ounces, the specific gravity 1·021, and there were 8·25 grains of urea to the ounce. There was also much uric acid and oxalate of calcium.

On January 11th, under the same treatment, but with the aliment greatly reduced below the demands of the appetite, the specific gravity was 1·018, the quantity fifty ounces. There was, moreover, no sugar, no albuminuria, no casts, six grains of urea to the ounce, but little uric acid, and no oxalate of calcium. Emaciation was, however, rapidly progressive. On January 26th the patient was yet more emaciated, the specific gravity was 1·011, and there was no sugar, no albumin, no casts, no uric acid, and no oxalate of calcium.

The following points are of interest to me in this case:

1. The alternation of albuminuria with casts and glycosuria.

2. The persistence of oxaluria and of lithuria so long as glycosuria and albuminuria continued.

3. The simultaneous disappearance of glycosuria and albuminuria without remedies when the anti-diabetic diet was strictly observed.

4. The gradual diminution and final disappearance of oxaluria and of lithuria when the anti-diabetic diet was reduced largely below the amount demanded by the appetite.

The problem which I have not yet solved in this case relates to the significance of the appearance of albuminuria and casts simultaneously with the disappearance of sugar—*i. e.*, to the reciprocal relations of the glycosuria and the albuminuria.

My last case, which I have recently seen through the courtesy of Dr. A. H. Smith, in his service at the Presbyterian Hospital, belongs to the category of nervous diseases, but seems intimately connected, like its predecessors, with some abnormity in the vascular mechanism.

The patient, a middle-aged man, of good family history, who indulged moderately in alcoholic drinks until five years ago, when he abandoned their use, had syphilis nine years ago, but the symptoms disappeared under treatment and he enjoyed robust health until quite recently, when his present ailment commenced. The first symptom which attracted his attention was slowness and hesitation in his speech. His mental processes far outstripped his powers of expression. Aside from this, there were no morbid phenomena and all his bodily functions were well performed until three months ago, when he suddenly became paralyzed in his right arm and leg. Sensation was retained and there was no absolute loss of consciousness, although there were notable mental confusion, pain in the head, and slight feverishness. All these symptoms disappeared within a few hours. Two similar attacks have occurred since the original one, the only symptom during the intervals having been the same slowness of speech, which existed before the first paralytic paroxysm. The writer witnessed the symptoms immediately preceding the last attack as well as the attack itself. Forty-eight hours before the development of paralysis the patient's condition was as follows: The functions were all well performed, the organs were healthy, and the urine was normal. There were no enlarged lymphatic glands and no cicatrices. The pulse, respiration, and temperature were normal. There were no arterial or heart murmurs. The superficial arteries were not rigid. The mind was clear and the patient cheerful. The only morbid phenomena were the following: The left pupil was somewhat dilated, but responded readily to light. There was slight ataxic aphasia, but no amnesic aphasia, no word-blindness or word-deafness. The sensibility of the left side was normal, that of the right side slightly exaggerated. The motor power was everywhere normal. The tendon and cutaneous reflexes were somewhat increased on both sides. The electrical reactions were normal. There was no nystagmus, but slight volitional tremor of the hands. Forty-eight hours after my first examination, the patient, feeling unusually well and buoyant, walked into the room of the resident physician, which was at some distance from the private room occupied by himself. While in the doctor's room he suddenly complained of vertigo and of inability to stand erect. He was carried to his room, when it was found that he was hemiplegic on the right side. I saw him soon after the development of the paralytic symptoms. He then had marked ataxic and amnesic aphasia, besides word-blindness. He wrote a telegram which he supposed to be a coherent message to his mother, but which consisted of the word *come*, repeated, in full or in part, at least twenty times in parallel columns. There was well-marked motor and sensory paralysis of the right side, excepting the face, with right hemiopia. The reflexes on the right side were notably exaggerated. There was flushing of the face, with suffusion of the conjunctivæ and frontal cephalalgia. The pulse was 100 and regular. The temperature was 100·5°, the respirations 24 to the minute. The left pupil was widely dilated. The volitional tremor had disappeared. The mind was confused and there was general restlessness with discomfort. The urine was normal and retention did not exist. There was no dysphagia. Within four hours these symptoms vanished as suddenly as they came, and were replaced by those which existed before the attack. Within the past week no new developments have taken place.

The questions I desire to submit relate to the ætiology, to the prophylaxis, and to the curative treatment. The absence of cardiac lesions and the rapid disappearance of the symptoms would seem to exclude embolism. The absence of rigidity of the arteries and of aortic murmurs renders the existence of syphilitic endarteritis or of endarteritis obliterans doubtful. There are no symptoms directly pointing to pachymeningitis hæmorrhagica or to tumor. The presence of persistent mydriasis on the left side, with ataxic aphasia, and of volitional tremor, suggest the possibility of cerebral sclerosis. Might not the sudden paralytic symptoms be referable to local vaso-motor paresis, owing its origin to the irritating effects of the doubtful primary lesion?

DOES PULMONARY CONSUMPTION TEND TO EXTERMINATE THE AMERICAN INDIAN?

By THOMAS J. MAYS, M. D.,
PHILADELPHIA, PA.

In an article published in "The New York Medical Journal" for January 1, 1887, entitled "Pulmonary Consumption among the Indians," Dr. Washington Matthews adduces evidence which "goes to show that consumption increases among the Indians under the influences of civilization," and that "where the Indians have been longest under civilizing influences the consumption rate is the highest." That the first proposition is quite in harmony with the operation of the law of adjustment between living bodies and their environment no one will, we think, call into question; but that the second proposition rests on an equally firm foundation neither follows from the truth of the first, nor is substantiated by facts as gleaned from the medical statistics reported by the commissioners of Indian affairs.

Dr. Matthews roughly divides the Indian population into two classes: (*a*) those living on reservations, and (*b*) those not living on reservations, or those at large. The latter constitute the class which has been most fully brought under the influences of civilization, two thirds of whom reside in the States. The former, or the reservation Indians, chiefly reside in the Territories, and have been most recently subdued and brought under civilizing influences. Following this he gives the consumption rate of 1880 among the Indian population in thirteen different States and Territories thus: "Nevada, 45; California, 70; Arizona, 83; Colorado, 107; Nebraska, 150; Montana, 176; Dakota, 200; Oregon, 240; Idaho, 250; Washington, 302; Michigan, 333; Wisconsin, 361; New York, 625." He concludes as follows: "It is seen in the foregoing table that in the States east of the Mississippi—the oldest States, where the Indians have been longest under civilizing influences—the consumption rate is the highest."

These figures reveal a startling condition of things, and, if true, would clearly show that the extermination of the Indian by natural means is only a matter of a comparatively short time, and they at once raise the question, Why should the fate of the Indian in respect to pulmonary consumption be harder than that of the white man? for we have * elsewhere given what we consider satisfactory proof that this disease is on the decrease among the white population in this country, owing to an adjustment of internal to external relations.

Before proceeding any further it is important to consider the methods which Dr. Matthews employed in getting the above-mentioned results; and this will serve to explain the variations in the calculations which each of us obtains. His "consumption rate is the number of deaths from consumption in a thousand deaths from all known causes." This obviously may become a very unreliable standard for comparison, especially when our estimates are to cover the statistics of a number of years. If the number of deaths from all causes were unvarying, or very nearly so, from year to year, or would necessarily bear a proportionate relation to the number of deaths from consumption, the plan would answer admirably. This not being so, results vary in accordance with the prevalence or absence of other diseases than consumption; hence more reliable results can be obtained when the number of deaths from any given disease is compared with the whole population or class among which it prevails. This latter method is the one which we adopted here.

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* "Study of Pulmonary Consumption in the City of Philadelphia," "Trans. of the College of Physicians," Nov. 3, 1886.

In looking up the data for this paper we encountered a great many obstacles. In the first place, we found that up to 1882 the reports of the Indian Commissioners gave no statistics in regard to consumption among the Indians, for prior to that time consumption and scrofula were classed together under the heading of tubercular diseases; and at no time do these reports furnish the number of deaths from consumption—only giving the number of those suffering from this disease in each agency. Imperfect as the work therefore is, and brief as the period is over which it extends, we think sufficient information may be gathered to show that consumption pursues the same general course among the Indians as it does among the white race—viz., first contact with the influences of civilization increases its death-rate, and prolonged contact diminishes it.

NAMES OF AGENCIES.	Population.	Proportionate average no. of cases of consumption to population from 1882 to 1886.	Proportionate no. of deaths f'm all causes to population in 1886.	How and when they were brought under the influences of civilization.
First Group.				
1. Mission, Cal	2,958	1 to 1,494	1 to 73	By treaty with Hidalgo.
2. Mackinac, Mich	4,000	1 to 896	1 to 93	By executive order in 1855.
3. White Earth, Minn	5,885	1 to 840	1 to 49	By treaty in 1855.
4. Nevada, Nev.	3,757	1 to 535	1 to 79	By executive order in 1859.
5. Navajo, New Mex.	23,000	1 to 1,200	1 to 82	By treaty in 1863.
6. Pueblo, New Mex.	7,762	1 to 1,500	1 to 46	Received under old Spanish grant in 1848.
7. New York, N. Y.	4,960	1 to 681	1 to 34	By treaty in 1797.
8. Umatilla, Or	902	1 to 301	1 to 54	By treaty in 1855.
9. Green Bay, Wis.	3,036	1 to 303	1 to 41	By treaty in 1848.
Second Group.				
10. Colorado River, Ariz.	1,012	1 to 253	1 to 23	By congressional act in 1865.
11. Round Valley, Cal	602	1 to 120	1 to 33	By congressional acts in 1864 and 1873.
12. Cheyenne River, Dak.	3,288	1 to 125	1 to 20	By treaty in 1868.
13. Pine Ridge, Dak.	7,000(?)	1 to 100	1 to 30	By treaty in 1868.
14. Fort Hall, Idaho	1,432	1 to 238	1 to 45	By treaty in 1868.
15. Osage, Ind. Ter.	1,582	1 to 258	1 to 20	By congressional act in 1872.
16. Colville, Wash. Ter.	3,568	1 to 298	1 to 46	By executive order in 1872.
17. Shoshone, Wyom.	1,800	1 to 267	1 to 50	By treaty in 1868.
Third Group.				
18. Pima and Maricopa, Ariz.	5,050	1 to 2,500	None.	By congressional act in 1883.
19. Papago, Ariz.	7,300	None.	None.	By executive order in 1882.
20. Sac and Fox, Iowa	380	One case reported.	1 to 48	By purchase deeds. 1876, 1882.

For the sake of clearness and comparison we add the above table, in which are given the population, the proportionate average number of deaths from all causes, and the manner in which the Indians were brought into civilization, in each of twenty Indian agencies. These agencies are divided into three groups: (1) those which existed prior to 1863, (2) those which were established from 1863 to 1880, and (3) those which have been established since 1880. This division is made for the purpose of showing the different degree of effects produced by civilization on the Indian race. This is very natural, for, if civilization has any deteriorating tendency in this respect, it must be granted that a few years are necessary for its development: hence the third group should manifest no or very little deterioration; the second group more; and the first group, if prolonged contact with civilization increases deterioration, should show most of all; while, on the other hand, if there is any tendency of adjustment between the constitution of the Indian and the causes which generate consumption, the first group should be comparatively free, or at least more so than the second group.

From this tabular arrangement it will be perceived that the Indian follows the same law of adjustment concerning consumption as that which is followed by his white neighbor. The Indians of the first group may be divided into two classes—those belonging to the Mission, Navajo, and Pueblo agencies, and those belonging to the rest of the agencies. Those of the first division are socially of a higher type than those of the second division. They bear a strong resemblance to the Mexican Indians, from whom they acquired many arts, and they are principally engaged in civilized pursuits. The Mission Indians are said to be the longest-lived people in the world—one per cent. of them are reported to be centenarians. As a rule, they live now as they have lived during the last three centuries. The Navajos are like the Pueblo and Zuni Indians. They pursue agriculture, spin wool, and weave cotton, and are famous for the fine blankets which they manufacture. On account of the higher state of their civilization, the Indians of this division never underwent that marked transition which those of the second division encountered when confronted by the higher plane of civilization.

The Indians of the second division of the first group more definitely represent that type of the savage with which we are familiar at the present day, and are the descendants of those with whom our Indian wars were carried on in earlier times, and they are analogous in nature to the Indians of the second group. An examination of the table shows quite a uniformity in the death-rate of nearly all these agencies. Thus, among the New York Indians, which have been longest under the jurisdiction of the Government, the consumption rate is exceedingly low (1 to 681). So is the consumption rate of the Mackinac (Michigan), White Earth (Minnesota), and Nevada (Nevada) Indians, while that of the Umatilla and Green Bay Indians is higher, but still makes a remarkably favorable showing. The conclusion, then, which can be drawn from these statistics, unless they are entirely unreliable, is that the influence of civilization on the American Indian in the long run is not detrimental to his well-being, so far as pulmonary consumption is concerned.

The agencies of the second group represent those Indians who have been brought under civilizing influences in more recent times—from 1863 to 1880—and, in contradistinction to the first group, the reports show that their consumption rate is high.

Group third represents those Indians who have been subjugated most recently. They are still leading a very primitive life, in many respects they bear a strong resemblance to the second division of the first group of Indians, and their consumption rate, as shown by the table, is almost *nil.* The Pimas are agriculturists and vegetarians, and live in adobe houses. The Papagos are Catholics, industrious and friendly, and their form of government is much like that of the Mexicans and Pueblos. The Sac and Fox tribe of Iowa are said to be physically as fine a class of men and women as it is possible to find. They live in the rude huts of their ancestors, cook their food on the ground floor, and leave the smoke to escape through the roof, thus securing good ventilation.

While it is much to be regretted that the reports of the Indian Commissioners contain no medical statistics concerning the Cherokee, Choctaw, Chickasaw, Creek, and Seminole Indians, who probably represent the highest grade of civilization yet attained among this race, these statistics show that the Indian in his primitive condition is almost free from pulmonary consumption; that his first contact with civilization vastly increases his liability to the disease, and that a prolonged contact diminishes this liability. And we see, therefore, that the Indian follows the same law of adaptation as that which is followed by the white and colored races, and does not occupy that exceptional position in this respect which is ascribed to him by Dr. Matthews.

Probably one of the chief causes of disintegration among the Indians when first coming in contact with civilization consists in an entire reversal of their previous habits and customs. The life of physical open-air activity, which invigorates the Indian's respiratory organs as well as his whole body, is now exchanged for a reservation life, where his nomadic instincts are curbed and his wants are fully satisfied, and in consequence he sinks into a state of lethargy and idleness from which he soon merges into pulmonary disease. After having endured the first shock of the conflict, a reaction begins to show itself. He gradually becomes accustomed to his new relation, assumes an industrious and peaceful life, and so elevates himself out of his physical and moral degradation.

It is not true, as is often stated, that the Indian only acquires the vices and not the virtues of the white man. It is no doubt true that he acquires his vices first, and consequently sinks early into disease and crime; but his history shows, too, that after he is adjusted to his new condition he also becomes capable of leading a highly moral and virtuous life—a life which compares very favorably with that led by his white neighbor.

Another important factor which tends to bring the Indian into harmony with his surroundings is a blood mixture with the white race. Mixture with white blood, which is already adapted to a higher plane of civilization, will certainly improve the Indian, and serve to increase his resistance to disease; and there is sufficient proof to show that this process of conservation, or blood adjustment, is going on at a rapid rate among those Indians who have been longest in contact with the white race, like those of New York and Michigan, who are largely composed of mixed bloods. There can be no doubt that this influence contributes largely to the greater immunity of these Indians from pulmonary consumption. This observation is full of meaning when it is linked with the opinion of one who has had a wide experience among the Indians, that "the half-bloods resist disease and death from pulmonary troubles better than full-bloods." *

1716 CHESTNUT STREET.

WHAT CASES OF NASAL CATARRH REQUIRE SURGICAL TREATMENT? †

By CLARENCE C. RICE, M.D.

THIS subject has received as much attention from this association as any other, if not more, during the past three years, and I am aware that newer, fresher topics would be more entertaining. That there is no unanimity of opinion here in regard to the frequency with which surgical measures are required in the treatment of catarrhal inflammations of the nose I think we all know. The discussion on this subject by the members of this association one year ago will show that there were almost as many opinions as speakers. Dr. J. Solis-Cohen, who has had large experience in the treatment of nasal disease, concludes that "in keeping the parts clean and in caring carefully for the patient's general health" he is doing the maximum for the cure of nasal inflammations. Dr. Daly, of Pittsburgh, is quoted as saying that "when we become more throat surgeons and less throat doctors, we shall get better results in the treatment of our cases." A number of the gentlemen last year expressed it as their opinion that there had been, and there still was, a tendency to do too much cutting and burning and boring and snaring, while others contended that in these very methods we had the most efficient therapeutical means in the treatment of catarrhal diseases of the upper air-passages. To me this diversity of opinion is not at all discouraging in endeavoring to arrive at the correct principles which should regulate the treatment of nasal catarrh. I believe that the members of this association are more agreed in their actual methods of treatment than the various opinions expressed by them would indicate.

In the treatment of nasal disease there is a middle ground between the local application of mild remedies on the one hand and radical surgical measures on the other, where we can safely stand. No surgical method is to be shunned completely because it has been employed too frequently, or because it has been at times improperly followed. I have seen disastrous results from the use of the galvano-cautery, and yet I am fully in accord with a statement made at our last meeting by our president, Dr. Harrison Allen. He said that he "believed that the galvano-cautery was the best single agent at our command to relieve nasal disease." One reason for the large increase in the use of surgical methods in our specialty is undoubtedly due to the more perfect diagnosis of diseases of the nasal chambers, which has been made possible by improved methods of investigation, for the instruments we have for the diagnosis of nasal disease are to-day most complete. (Such a thorough illumination of the upper respiratory passages can now be effected, by means of strong, well-directed lights, that disease in these parts is readily discovered.) The addition of the electric light (the electric laryngoscope and post-nasal electric lamp) and the wonderful drug, cocaine, as means of diagnosis, to the equipment of the rhinologist, leaves little to be desired. The use of cocaine has, in a measure, revolutionized nasal therapeutics, for, whereas before it was discovered an examination of the nostrils showed nothing but hypertrophied tissue over the turbinated bones, guarding the entrance to the nostrils and preventing further inspection, now this obstructing tissue can be pushed aside, and the entire nasal cavities are visible. The case now perhaps presents entirely new and unexpected features; exostoses of the septum, polypi, or hypertrophies of the soft structures are seen in the posterior half of the nasal chambers. Surgical measures are more frequently employed than formerly, too, because better methods of examination now more clearly disclose the *causes* of inflammation which can not be removed by the older methods of spraying and douching. This, after all, is the most difficult part of the physician's work, to locate and determine the precise character of the pathological condition. If we were all agreed as to the local predisposing and exciting causes of a catarrhal inflammation, we should also probably be agreed as to the best method for removing them. With the recently invented and convenient forms of the electric cautery, hot and cold snare, drills, forceps, and cutting instruments, there are few nasal hypertrophies or obstructions which can not be easily reached and removed. In fact, surgical measures in this department are so much more easily carried out than they were a few years since, perhaps the temptation is frequently great to cut and remove too much tissue from the nasal passages, in the endeavor to make straight channels of what were intended, and with great wisdom, to be curved, tortuous passages. There comes a time in any line of surgical practice when, after rapid progress in means of diagnosis and great improvement in instruments, it is well to stop for a moment and look back over the field. It is wise to compare the new methods of treatment with the old, and to determine whether they are, in every sense, superior to them. The old question, "Can catarrh be cured?" still comes to us, and I believe it can be answered affirmatively with much greater assurance and certainty than it could have been five years ago. Every physician has patients who serve as guide-posts along the road which has been traveled, showing how much could be accomplished at that time to cure catarrhal diseases of the nose, and indicating, too, how far surgery has advanced in heroism, if not in skill.

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* Captain Pratt's report of the Indian school at Carlisle, Pa. See "Report of Indian Commissioner for 1886," p. 22.

† Read before the American Laryngological Association at its eighth annual congress.

The physician at one time was quite content to excise small portions of enlarged tonsils, but now one sees, not frequently to be sure, pharynges which have lost all semblance of tonsils, and with them the pillars of the pharynx have also disappeared; nostrils, too, with septa thinned, and turbinated bones ground off. This last is said not so much as a criticism of any existing wrong as a warning against too extreme surgical measures. Of all the diseases of the throat and nose, those requiring surgical interference are the least troublesome, both in determining the prognosis and in effecting a cure. They are the most satisfactory cases we meet with. It is much easier to remove a polypus than to cure a painful throat in which no cause of pain can be discovered. It is less difficult to apply the electric cautery to hypertrophied nasal tissue than to check supersecretion in a case where but few pathological changes can be seen, and so, where there is no opportunity to correct such changes with knife or cautery, the surgical treatment of catarrhal inflammations of the nose, if properly employed, is in no way more radical or more apt to produce disastrous results than the application of the various astringent, sedative, or stimulating drugs.

Almost any effect can be produced with the galvano-cautery electrode, depending entirely upon the manner in which it is used. It can be applied to the mucous membrane so gently as to be hardly more than an astringent, the very superficial ulceration produced causing only slight contraction of the tissues. Those who condemn this instrument should go far enough to specify what mode of using it they consider injurious. It might seem heroic treatment to apply a platinum wire at white heat to the sensitive congested nasal mucous membrane when in a condition of acute coryza, but it is much more rational treatment than to cover this same membrane with a solution of tannin or of nitrate of silver, a mode of procedure which has been generally employed.

Let us for a moment note the effects produced by these two different methods of treatment (and I refer to an article lately published by myself, "The Surgical Treatment of Colds in the Head"). In the first instance the actual cautery burns down the swollen tissues, leaving a small ulcerated surface. This affords relief in several ways: it opens the closed nostril so that the patient can breathe; it acts as an excellent counter-irritant, determining the inflammation from other and neighboring parts to this one locality, and so lessens greatly the area of inflammation. It does more than this; the character of the inflammation is changed from that of a coryza, which may be more or less peculiar, to that of a simple burn. In the other case, when a supposed milder measure is employed, and some mild astringent solution is sprayed or brushed into the nasal cavities, it is possible that a little contraction of the tissues is effected for a short time, but this effect is very transient, and the inflamed mucous membrane quickly reacts, and is soon more congested and swollen than before the application of the drug, so that the mild astringent has proved to be an irritant. This uncertainty in the action of medicinal applications has at all times been a most discouraging feature in the treatment of chronic nasal catarrh. One after another the various classes of drugs have been employed, but results have been far from satisfactory or uniform; the reaction of the astringent has proved most stimulating; the desired sedative has been most markedly irritating. How uncertain the action of remedies is when employed upon mucous surfaces in other portions of the body I do not know, but the nasal mucous membrane is a peculiar structure, which can not be acted upon by drugs with any degree of uniformity, and the reasons for this are evident. The nasal mucous membrane being constantly exposed to irritation of all kinds—foreign bodies in the air, rapid changes in the temperature of the atmosphere, etc.—the effect of drugs locally applied is greatly modified and frequently changed altogether by these external causes. If all extraneous influences could be excluded, if the nostrils could be closed to dirt, dust, and air, we could more exactly determine the action of medicines upon the nasal mucous membrane. The physiological action and the peculiar anatomy of the soft nasal tissues are factors which not only predispose them to catarrhal inflammations, but, what is more pertinent to this paper, they strongly compromise the benefit to be derived from all topical applications, rendering such applications ununiform and uncertain in their effects. They furnish, too, a strong argument for the adoption of surgical measures in the treatment of inflammations of the nasal mucous membrane. The cavernous tissue of the nasal cavities performs an important function, and it is well to take this into consideration in selecting the medicinal remedy or in planning the operation to be employed.

The value of having erectile tissue in the nose is appreciated when we remember that the nostrils warm air which is too cold, cool air which is too warm, moisten dry air, and strain out a large portion of the foreign particles which, without the nostrils, would enter the lungs. The hypertrophied masses of tissue over the anterior turbinated bones are sentinels which are almost automatic in their action, at times puffing up and almost occluding the nostrils when air is unfit for respiration, and at other times retracting and becoming almost invisible when their aid is not needed. I speak of this well-known physiological action of the erectile structure of the nose only to emphasize the fact, which I believe may be easily overlooked—namely, that the tissues over the turbinated bones are not always hypertrophied (using that word in a pathological sense), even when they nearly occlude the nostrils, so that not every so-called "anterior hypertrophy" should be operated upon. The presence or absence of other symptoms of nasal catarrh should alone determine whether the tissues of the nose are normal or pathological. But, while the erection of the cavernous tissue of the nose serves a most valuable physiological purpose, it is unquestionably a most difficult structure to influence with astringent or sedative solutions. It repels all such remedies as it does foreign bodies in the air. All the drugs commonly used in nasal catarrh, without regard to their physiological action elsewhere, do little but irritate the nasal mucous membrane; and the astringent which is used in a subacute inflammation, instead of diminishing the trouble, oftentimes renders the process acute. These are a few of the disadvantages which have attended the use of medicines applied to the nasal mucous membrane. In a word, this method of treatment has been most discouraging, and it is not surprising that any surgical procedures which promise satisfactory, uniform, and permanent results are looked upon with favor, and are coming to be more generally used. The difficulty in former methods of treatment has been, apparently, not so much in the selection of proper drugs as in the correct appreciation of the condition of the mucous membrane to be treated. What is the stage or grade of inflammation? What amount of active process is going on? And it is not sufficient to determine whether the inflammation is acute or chronic, for between these two conditions there are many minor stages, which it is necessary to appreciate in determining the proper plan of treatment to be followed. The physiological function and the peculiar anatomy of the nasal mucous membrane, and the extraordinary conditions under which it is placed, render a division of catarrhal inflammation of this membrane into stages, for the sake of intelligent therapeutics, well-nigh impossible.

Dr. J. N. Mackenzie* has simplified matters in his classification of chronic nasal inflammations, and I believe that he correctly describes the successive pathological conditions that usually take place.

It is a matter of regret that the relation existing between the pathological appearances of catarrhal inflammations of the nose and its symptomatology can not be more precisely determined and stated. The physician rarely examines nostrils in which the nasal mucous membrane presents a normal appearance; so-called "hypertrophies" can be discovered in almost every nose; enlarged blood-vessels are hardly ever absent, even though the patient is not a catarrhal one.

It is manifest that not every case presenting pathological conditions requires either medical or surgical treatment. In addition to pathological appearances as a means of diagnosis, I wish to suggest that more stress be placed upon the symptoms of the patient as a safe guide in deciding whether the case requires surgical methods of relief. I would not advocate less careful and painstaking examinations of the changes which have taken place in the nasal tissues; but the *special complaint* which the patient brings to the physician to relieve is, at least, something tangible for the physician to combat. It is good advice to the beginner in any specialty to make it his strong endeavor to control or alleviate the annoying symptoms which are distressing his patient. He must always keep this point in mind if he would gain the confidence of his client and score a success. The patient who breathes easily through his nostrils cares nothing for the removal of thickened tissue, if such an operation does not check at all the excessive secretion of mucus which he is constantly obliged to clear by violent exertion from the posterior nares. The majority of patients, though thoroughly ignorant of the *nature* of catarrhal disorders, have a very correct understanding of the *particular symptoms* which annoy them. What are the symptoms of nasal catarrh which should be relieved, and what pathological conditions producing these symptoms should be corrected by surgical measures?

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* J. N. Mackenzie, "Notes on the Classification, Diagnosis, and Treatment of Chronic Nasal Inflammation," "Medical News," April, 1885.

In arriving at a diagnosis of catarrhal inflammations of the nasal tissues, we take into consideration the color of the mucous membrane, the degree of thickening of the tissues, the amount of secretion, and such subjective points as pain or disordered sensibility of any kind. In the matter of color of mucous membrane we have little of value to guide us in the treatment of nasal catarrh. The vivid redness of acute inflammation and the gray appearance of a chronic process described in text-books are here of slight diagnostic significance, for the coloring changes with every variation in the surrounding temperature. The common act of sneezing will change a pale mucous membrane to one of a bright-red color, and the nasal membrane which, judging from its color, we infer is acutely inflamed will, perhaps, in half an hour have lost all traces of congestion.

Very close to the question of color or congestion is the second point—the amount of swelling, the degree of thickening or of hypertrophy; and here a great deal of information can be obtained as to the nature and extent of the catarrhal process and the advisability of surgical treatment. As has been said, there is scarcely an instance where so-called "anterior hypertrophies" can not be found; but are they "hypertrophies" in a pathological sense? Is the swelling of the soft tissues due at all to actual increase of connective tissue underlying the mucous membrane, or is it entirely produced by either active or passive congestion of the cavernous tissue? The function of these swellings must be constantly remembered in deciding how much of them should be removed. Nostrils are frequently examined in which the mucous membrane on both sides is found to be in contact with the septum, and it is difficult to see how any air can pass; but the patient assures the physician that he rarely has any difficulty in breathing through the nostrils, and this is explained by the fact that it does not seem necessary that the erectile tissue on both sides should be enlarged at the same time for physiological purposes, and, consequently, one nostril is usually open. The use of cocaine here will decide the question. Place a four-per-cent. solution on any of these swellings, and notice how much thickness of tissue remains after the cocaine has expelled the blood. If there is still hypertrophy enough to interfere with comfortable breathing, or if a portion of the obstruction is found to be due to an enlarged turbinated bone, the passages should be made larger by using the platinum electrode, or the small cautery loop, as recommended by Dr. Harrison Allen. It is manifestly a waste of time to endeavor to contract erectile tissue with astringent drugs. Such contraction must necessarily be very transient, and I believe that most medicines, applied to the nasal mucous membrane, are stimulating and irritating, and eventually cause permanent dilatation of the cavernous tissue. This is especially true of medicine sprayed into the nostrils, as the air-current serves as an additional irritant. Permanent enlargement of the soft tissues does more than to obstruct the nostrils; it steadily increases the amount of inflammation by the irritation produced in its contact with the cartilaginous septum. The irritation produced by such friction soon shows itself in heightened color, and a secretion of thin glairy mucus between the two surfaces—a condition of "cold in the head." The electric cautery should be used to destroy enough of the blood-vessels to prevent this contact between the soft tissue and the septum. By so doing, we remove one of the exciting causes of chronic hypertrophic catarrh. Great care, then, should be taken to destroy only sufficient tissue to afford comfortable breathing, and at the same time to leave the erectile structure of the nose in a condition still capable of performing its physiological function. It is because the cautery and knife have been employed too freely that conservative laryngologists have deprecated their use. Certain it is that the nasal passages should be long and tortuous, that the inspired air may come in contact with as large a surface of the moist, warm mucous membrane, and for as long a time, as possible. I dare say we have all seen cases where surgical measures have been abused in the attempt to cure nasal inflammations. I saw a young man recently who had had his nose thoroughly cauterized on both sides, and he complained that he was more annoyed by sensations of heat and pain through the nostrils when he breathed than he had been by nasal obstruction before the operation. The mucous membrane on both sides showed long, deep bands of cicatricial tissue. The cautery had accomplished too much; the nostrils were too open, and too little mucous membrane remained to warm the air or to prevent the entrance of foreign bodies. The cold air was the cause of the neuralgic pains, and the dirt and dust, striking directly against the post-nasal pharynx, had produced a dry pharyngitis, just as that condition follows an atrophic nasal catarrh. I have seen two cases where acute inflammation of the middle ear followed extensive cauterization of the nasal tissues, not, as I believe, by extension of inflammation, for there was but slight inflammatory reaction, but by the sudden exposure of the Eustachian orifices to an increased current of cold air.

The width of the nostril should be considered in determining how much of the soft structures should be removed. The septum rarely occupies an exact median position, and it will not be necessary to use the cautery or snare so freely in the wide nostril as in the narrow one. In the ordinary cases of chronic nasal inflammation, three fourths of all that can be effected in the way of cure has been accomplished when the soft or bony structures of the nose have been so reduced in size by surgical measures that they can no longer prevent free nasal respiration.

115 East Eighteenth Street, New York.

A REPORT OF TWENTY-ONE CASES OF TRAUMATIC LESIONS OF THE EAR;

WITH REMARKS.

By GORHAM BACON, M. D.,

AURAL SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY.

Case I. *Injury to the Ear from a Blow.*—William T., aged twenty-six, a sailor, came to the infirmary September 2, 1884, and said that last January, when on board ship, he was struck on the right side of the head by the wheel-house door. Gradually he began to suffer from pains on the right side of the head, in the right ear, and over the right half of the forehead. Pains are severe, paroxysmal, and of a cutting character, and have continued ever since.

A day or two after the accident the right ear began to discharge, and has since continued discharging pus, and occasionally blood. He has also been troubled with constant tinnitus, sounding like the blowing off of steam.

In June last a doctor examined his ear and pulled out some "flesh," and since then he has been worse as regards pain and discharge. He has frequent dizzy sensations, and occasionally his memory leaves him for some minutes at a time. He has never noticed any facial distortion.

He has slight left facial paralysis. Right membrana tympani destroyed; canal filled with pus, which is thick and offensive; the bottom of the canal filled with small red granulations The Eustachian tube is permeable.

Hearing distance, watch, right ear, 0; left ear, 1″. The ears were inflated by Politzer's method, and pulv. zinc. oxid. et acid. boric. insufflated.

Case II. *Concussion of the Labyrinth (probably) from a Fall.*—John R., aged nineteen, January 13, 1885. Five days ago, after drinking freely, the patient fell, striking against the right side of his forehead and right ear. There was no bleeding from the ear. He was carried home, and was not able to get up till the following day. The day after the fall he noticed that he was deaf in the right ear, and the hearing has not improved since then. He has been annoyed by marked whistling or singing tinnitus. There is no pain in the ear or head. The day after the accident, on trying to walk, he staggered and had to catch hold of a support to keep from falling. At the same time he felt dizzy and light-headed. The same dizziness is felt every time he starts up quickly or tries to walk, but not when he keeps still. The staggering also has kept up ever since up to to-day, when he was able to walk pretty well.

An examination showed the left membrana tympani somewhat hazy and retracted. Right membrana tympani hazy and retracted, and it has a peculiar corrugated appearance in the posterior superior quadrant.

Acoumeter, right ear, 0, before and after Politzer inflation; left ear, 8 ft.

Tuning-fork, when placed in different positions on the head, heard better in the left ear, although still audible in the right ear.

Air does not reach the right middle ear by Politzer inflation; catheter used. The patient has chronic naso-pharyngeal catarrh and bad teeth.

Case III. *Rupture of the Membrana Tympani from a Fall.*—M. M., aged twenty-eight, bookbinder by occupation, consulted me March 3, 1885. He is subject to catarrh, but before this he never had an earache or any trouble with his ears. Last Saturday he fell down a flight of cellar-steps, striking against the left side of his head. He was stunned for a few moments. The ear immediately bled profusely, and continued for twenty minutes.

Acoumeter, right ear, normal; left ear, 2½ ft. Tuning-fork on vertex cranii heard better in the left ear.

Examination.—Right membrana tympani a little hazy; some congestion around the short process and along the handle of the malleus. Cone of light fairly good. Left auditory canal and membrana tympani covered with dried blood; canal posteriorly ragged, as if torn by an instrument, and the whole canal congested. Membrana tympani congested and fleshy-looking. After removing some coagula, a large perforation in the drum-head is seen in the lower portion. The membrane has the appearance of having been torn, but is not well seen on account of the swelling of the canal.

Case IV. *Inflammation of the External Auditory Canal and Middle Ear after using an Ear-scoop.*—F. K., aged seventeen, a bookbinder, was seen April 21, 1885. He has chronic naso-pharyngeal catarrh, and last winter he suffered from earache and a discharge from the right ear. His general health is good. The left ear has pained him since last Friday night, when he put an ear-scoop into the left auditory canal. He thought he felt a hard substance in the ear. He suffered immediate pain, which continued all night, and has been troublesome every night since. The ear began to discharge on Saturday.

Acoumeter, right ear, 15 ft.; left ear, 2″. Tuning-fork on vertex heard louder in left ear.

Examination.—The *right* membrana tympani dull and retracted, and contains calcareous deposits. No cone of light.

The inner half of left canal somewhat narrowed and inflamed, especially posteriorly. The membrana tympani perforated but not well seen; dermal layer peeling off. The canal filled with a thin purulent matter.

April 24th.—Pain has been less; also the discharge. There is a dull sound in the ear all the time.

Case V. *Inflammation of the External Auditory Canal from scratching the Ear with the Point of a Button-hook.*—P. W., aged eighteen, jeweler, consulted me April 28, 1885, and said that he never had any ear trouble before. He has chronic naso-pharyngeal catarrh, and the tonsils are very large. He had a sore throat and cold April 25th, Saturday. Sunday he ran the end of a button-hook into the left ear, as his ear felt stopped up, and immediately experienced pain. The pain persisted all day Sunday, and Monday he obtained some drops of laudanum and sweet oil from an apothecary. Sunday afternoon the parts in front of the ear became swollen. Monday he noticed a discharge from the ear, and it contained some blood. He has not heard any whistle in that ear on blowing his nose.

Acoumeter, right ear, 15 ft.; left ear, 2″.

Tuning-fork vibrating and placed on the vertex, heard better with the affected ear.

Examination.—Right membrana tympani somewhat retracted. Cone of light good. Canal and drum-head both somewhat congested. The left canal contains some blood and pus, the dermal lining of the canal peeling off and the parts beneath very red. Membrana tympani swollen and congested; no perforation seen.

May 1st.—Not much pain since; discharge profuse and muco-purulent. Membrana tympani less inflamed, and less inflammation in the canal.

Case VI. *Injury to the Ear from a Pencil having been pushed into the Auditory Canal.*—A., aged ten, June 9, 1885. He says that last week, while sitting in school, he had a pencil driven into the ear by a companion. Two days ago the ear began to pain very badly, keeping him awake at night. On the following day the ear began to discharge, and the pain has abated somewhat, but has been severe again to-day.

Examination.—The membrana tympani red and fleshy-looking; no perforation visible; moderate amount of pus in the canal. The Eustachian tube pervious.

Case VII. *Rupture of the Membrana Tympani from a Blow.*—Mary R., aged twenty-four, was seen October 27, 1885. She says that since childhood the right ear has been discharging, and she has been deaf on that side. Ten days ago she was struck across the left ear with the palm of the hand. She had some pain for a moment, and was dizzy, and noticed that she had suddenly become deaf. The deafness has continued up till now, but she has had no more pain, and no tinnitus or discharge. There is a stopped-up feeling in the ear. She picked the ear with a hair-pin, and made it bleed and pain her. She then washed out the ear with a lotion obtained from an apothecary.

Hearing distance, acoumeter, left ear, 12 ft. König rod, 30,000 vs.; right ear, 42″; left ear, 8″. Bone conduction better on the left side. Left Eustachian tube not very pervious. Nasal passages contracted, and the post-nasal tissues spongy.

Examination.—Right membrana tympani, anterior half gone, and surface granular.

Left membrana tympani congested and much retracted; short process prominent; calcareous deposit just below the latter. There is a depression in the posterior portion of the membrana tympani, in the center of which is a linear perforation occupying the posterior inferior quadrant. In front of this is a very small perforation.

Case VIII.—James F., aged forty-one, Italian laborer, was seen May 12, 1885. Three months ago the patient fell into a ditch (twenty-five feet deep) and struck the right side of his head. He was insensible, and taken to a hospital. Since the accident he has had a dead, numb feeling in the right ear; also a buzzing noise. He heard perfectly well before he fell. When the weather is damp he does not hear as well, and the tinnitus is worse. The noise is present all the time. He feels dizzy very often when he walks, and objects seem to move from left to right.

Hearing distance, acoumeter, right ear almost contact; left ear, 3½ ft.

The tuning-fork on teeth is heard very slightly in the right ear. When placed on the mastoid the sound is referred to the left ear. It is heard, however, when held about an inch in front of the right ear. The aërial conduction is better than the bony conduction for the left ear.

He has naso-pharyngeal catarrh and granular pharyngitis. The hearing distance is not improved after using the catheter on either side.

Examination.—Left membrana tympani dull, retracted, with prominence of the short process.

Right membrana tympani more retracted and hazy than the left, and somewhat congested along the handle of the malleus.

Both membranæ tympani move but little under Siegle's otoscope; the right less than the left.

The patient hears the medium tones of a Galton whistle at a distance of eighteen feet.

Case IX. *Deafness from being Hit by a Snow-ball.*—J. B., aged twenty-three, January 26, 1886. Patient says he was struck on the right ear by a snow-ball some days ago. He was nearly stunned and quite dizzy, and the ear has been very painful.

The cervical glands just below the right ear are enlarged.

Hearing distance, watch, right ear, 1″; left ear, 2½ ft. Acoumeter, 18 ft. for both ears, but heard louder in the left.

Tuning-fork, right ear, the bony conduction is better than the aërial conduction, while in the left ear the aërial is better than the bony conduction.

Examination.—Right membrana tympani atrophied, and a calcareous deposit in the anterior portion.

Left membrana tympani: atrophic changes less marked.

Case X. *Deafness from being Hit by a Snow-ball.*—Samuel F., aged nine, was seen December 10, 1886. Says he had an earache a month ago in the left ear. He is a catarrhal subject. He further says that day before yesterday he was hit by a snow-ball on the left ear, and he immediately noticed that he was deaf on that side; there has been no pain nor tinnitus.

Hearing distance, watch, right ear, 2½ ft.; left ear, 1½ inch.

Examination.—Right membrana tympani fairly normal; slightly retracted. Left auditory canal slightly congested; membrana tympani slightly congested and somewhat more retracted than the right drum-head.

After Politzer inflation, the hearing distance for the left ear was increased to six inches.

Case XI. *Otitis Media Purulenta Acuta caused by a Sharp Stick " run into the Ear."*—J. M., aged nineteen, was seen July 21, 1886. A week ago, he says, he had a sharp stick "run into" the left auditory canal. It bled then and for several days after. There has been pain ever since. This morning a discharge of pus appeared.

Hearing distance, watch, left ear, ½″; right ear, 12″.

Examination.—Left membrana tympani red, swollen, fleshy-looking, and coated with pus at the lower part; there is also a perforation in the lower segment.

Right membrana tympani retracted.

The Eustachian tube is pervious on the left side, but not on the right.

Case XII. *Lacerated Wound and Diffuse Inflammation of the Auricle.*—Patient was seen August 25, 1886, and says that two months ago he received a blow on the left auricle which caused a slight wound, which healed, although the ear remained sore. Two weeks ago the same ear was badly sun-burned, and the present condition was gradually developed. He has used various applications, none of which have done any good.

Examination.—On the inner aspect of the left concha is a deep ulceration, with thin discharge and adherent sloughs; no sinus; auricle very tender; there are also two slight superficial enlargements over the mastoid region, and diffuse swelling of the cervical region just below the angle of the jaw.

Iodoform powder dusted over the ulceration and a cotton compress applied.

Case XIII. *Rupture of the Drum-head* (*probably*) *from the Report of a Cannon.*—H. S. B., aged forty-three, was seen July 13th. He says he has been deaf in the right ear for a year or so, and there has been a discharge. He suddenly became very deaf July 4th after firing off a cannon; there has been no discharge, pain, nor tinnitus.

Hearing distance, acoumeter, right ear, 3″; left ear, 1″.

Examination.—Right auditory canal contains a thick discharge. In the left membrana tympani is seen a small perforation in the posterior inferior quadrant; the dermal layer is gone and there are no landmarks.

Case XIV.—M. D., aged twenty-four, June 11, 1886. Yesterday he was thrown from a truck and struck on the right ear, which bled. He immediately became deaf; no pain, but a buzzing noise in the ear.

Examination.—Right auditory canal contains clotted blood; the dermal layer is peeling off of the wall of the canal.

Hearing distance, right ear, watch, c″.

Case XV.—B. D., aged thirty-eight, seen June 15, 1886. Six days ago a window-sash fell on the left side of her head, since which time she has been troubled with tinnitus and a stopped-up feeling; there has been some discharge, also pain when she syringes the ear. An examination showed a small rupture in the center of the drum-head, and the dermal layer peeling off from the latter.

Case XVI. *Acute Purulent Inflammation of the Middle Ear from having scratched the Canal with a Pin.*—Patrick T., aged twenty-four, February 23, 1886, says that a year ago he pricked his left ear with a pin and it became sore and discharged; this has continued ever since; at times the ear has been painful, and for the past month the pain has been growing worse, and last night was severe.

Hearing distance, left ear, 12″ for the watch.

Examination.—Left auditory canal contains a small amount of thick, non tenacious pus; membrana tympani perforated in the posterior superior quadrant, swollen, red, and in places denuded of epithelium.

Case XVII. *Inflammation of the External Auditory Canal from scratching the Ear with a Pin.*—Bridget G., aged thirty, May 25, 1886. The right ear itched and she pricked it with a pin last week, and for three days it has been sore. There is no discharge, but the pain and tinnitus (like bells ringing) are severe. Right auditory canal congested as well as the drum-head.

Case XVIII.—Mary H., aged ten, November 17, 1886. She says that the left ear discharged for some time a year ago. She pricked the right ear with a brass pin two weeks ago, and the ear has been discharging ever since. There is pain in this ear, which is especially bad at night, keeping her awake.

Examination.—Eczema (pustular) of right auricle, which is somewhat thickened. Right auditory canal inflamed down to the drum-head, which is sodden and somewhat congested. Left auditory canal filled with dry scales and cerumen. There are nits in the hair.

Case XIX. *Injury to the External Auditory Canal from a Hair-pin.*—Amelia O., aged forty-four, July 21, 1886. She has had pain in the left ear for two weeks from having scratched the canal with a hair-pin.

An examination showed that the left canal was narrow, reddened, and tender at the upper portion of the inner end of the cartilaginous canal. No light reflex seen on the drum-head.

Case XX. *Inflammation of the Auditory Canal from scratching the Ear with a Hair-pin.*—Sophia L., aged thirty-six, July 28, 1886. For the past six months the ear has itched, and she has scratched it frequently with a hair-pin; three days ago the left ear commenced to pain her so that she could not sleep.

Examination.—Left auditory canal very narrow and filled with a darkish mass, which contains membranous, semi-transparent shreds, leaving a reddened, excoriated surface when removed; membrana tympani congested at upper portion; lower portion not seen. Eustachian tube pervious.

Case XXI. *Inflammation of the Auditory Canal from picking the Ear with a Steel Pin.*—Patrick D., aged twenty-two, September 8, 1886. Three weeks ago he picked the left ear with a steel pin, since which time he has been annoyed by tinnitus and some deafness, but no pain.

An examination showed that the right ear was normal; left canal (inner end) covered with a whitish, non-coherent deposit, and the surface red after its removal; drum-head uniformly congested, but no perforation.

Neither Eustachian tube pervious when inflation was attempted by Politzer's method.

In reviewing the notes made of these cases, it will be seen that in six inflammation of the auditory canal was caused by the patients having introduced hair-pins, etc., into the meatus to relieve the itching. In three cases, acute purulent otitis media followed from the patients trying to scratch the ear, in one case with a pin; in one case it was caused by a pencil having been pushed "too far" into the canals; while in the third patient it was due to a sharp stick having been forced into the meatus.

In one case the patient, in attempting to use an ear-scoop, set up an inflammation of the auditory canal as well as of the middle ear.

In Case I a suppurative inflammation of the middle ear was caused by a blow from a wheel-house door striking against the side of the head, and possibly associated with it was an abscess of the brain. The patient, however, was only seen once.

In Case XIV the patient, in falling from a truck, produced inflammation of the auditory canal.

The causes of ruptured drum-head were a fall in one case, a blow in another, while in the other two, one was probably due to the loud report of a cannon which the patient was firing at the time, and in the fourth the membrana tympani was probably ruptured from the blow of a window-sash striking against the side of the head.

Snow-balls striking against the ears produced deafness in two cases. In one case the auricle was injured. In two cases disease of the labyrinth was undoubtedly produced by falls, if we can believe the statements made by the patients as to good hearing before the accidents, for tests with the tuning-fork showed that in both the bony conduction was much impaired in the affected ears, and both complained of tinnitus, dizziness, and staggering gait.

In the four cases of ruptured drum-heads, in Case III, due to a fall, the patient suffered from well-marked nasal catarrh, and in the membrana tympani, which was not perforated, there were catarrhal changes. In Case VIII, due to a blow, the patient had had a discharge and had been deaf in the right ear since childhood, while on the left side (ear injured) the Eustachian tube did not allow air to enter freely the tympanum; the nasal passages were contracted and the tissues in the posterior nares spongy. In Case XIII, due probably to the explosion of a cannon, although there were no notes made as to catarrh, the patient had had a discharge and suffered from deafness for over a year in the ear which was not injured. In the fourth case, Case XV, unfortunately nothing was said in my notes as to the presence or absence of catarrh.

In three cases reported in the "Med. Record," April 11, 1885, where the drum-heads were ruptured by blows, there were well-marked catarrhal changes in the drum-heads in two, while in the third no mention is made of catarrh. In Case IX, where deafness followed from the blow caused by a snow-ball, the membrana tympani on the injured side was much atrophied and contained a calcareous deposit. In Case X a snow-ball also caused the deafness in a catarrhal subject who a month before had had an earache, and both drum-heads were retracted and congested.

In Case VIII, injury to the labyrinth from a fall, the patient had chronic naso-pharyngeal catarrh, and both drum-heads were retracted and dull, with prominence of the short processes. Case II, injury to the labyrinth from a fall: in this patient also both membranæ tympani were hazy and retracted with chronic naso-pharyngeal catarrh; there was also an obstruction to the passage of air through the Eustachian tube on the injured side. In two patients, Case I and Case XIV, both injuries to the ear, one from a blow and the other from a fall, unfortunately no mention is made in my case-book about catarrh.

On account of the catarrhal condition of the nasal passages, etc., found to exist in most of these cases of injuries from blows, falls, etc., I wish to emphasize particularly a statement which I made in an article published in the "Med. Record," April 11, 1885, "that in most all the cases of rupture of the membrana tympani due to the sudden condensation or rarefaction of air or from blows, falls, etc., an examination of the ears will show a catarrhal condition of the middle ear, with more or less obstruction to the entrance of air through the Eustachian tube, or some calcareous deposit or other change in the membrana tympani itself."

Roosa, in his "Treatise on the Ear," says: "I am inclined to doubt if persons with well-ventilated tympanic cavities and normally acting drum-heads ever suffer a rupture of the membrana tympani except from very great direct violence."

Gruber's experiments on the cadaver prove that in cases of normal drum-heads the resisting power of the membrane is very great.

The prognosis in these cases of traumatic lesions of the ear depends very much on the nature and cause of the injury. Direct injuries to the canal and membrana tympani from the introduction of hair-pins, etc., into the meatus, may cause but slight inflammation in many cases, and may heal, leaving but little deafness. Injuries to the drum-head from sharp-pointed instruments usually heal rapidly if inflammation of the middle ear does not follow. Inflammation and suppuration of the middle ear may occur where the canal or membrana tympani has been injured, and become chronic, or the various complications may arise, making the prognosis serious. Where thickening of the drum-head with adhesions has taken place, or there is concussion of the labyrinth with or without rupture of the membrana tympani, permanent disturbances of hearing generally remain.

Injuries to the ear from blows, falls, etc., on account of their medico-legal significance, become of special interest to the aurist, who is frequently asked to give his opinion in court as to whether the hearing has been injured by such accidents. In order to decide if a rupture is of traumatic origin, it is necessary to see the patient almost immediately after the supposed accident, as in indirect injuries the edges of the rupture are then sharply defined, and covered more or less with dark-red coagulated blood. If the perforation is a large one, the inner wall of the middle ear will show through, of a yellowish-pink color. If suppuration has already taken place at the time of the examination, it is impossible to decide that the case is of traumatic origin. An important point made by Politzer in deciding whether a traumatic rupture of the membrana tympani has taken place is as to the character of the sound made by the air in passing through the orifice of the rupture, on inflation of the ears by the Valsalvian method. In cases where the perforation has been caused by disease of the middle ear, even when there has been much loss of substance, the air rushes out with a sharp hissing noise, while in a normal ear which has been ruptured by traumatism, the escaping air has a broad, deep breathing sound.

In cases of labyrinthine disease, where the aurist is called upon to determine whether the deafness is due to a blow or fall, etc., and the membrana tympani and external meatus appear normal, a diagnosis can not be made, for in these cases the question depends upon the answers given by the patient when his hearing is tested with the tuning-fork and König rods. The perception of sound by bony conduction becomes much lessened or is quite wanting in such cases, and the patient is apt to complain of subjective noises, giddiness, deafness, and a dull feeling in the head; but the fact must not be overlooked that catarrh and other diseases may produce similar symptoms.

In the case of a suit for damages, reported in this Journal December 12, 1885, by Dr. Roosa and myself, it was alleged that the deafness was caused by a blow on the ear. The patient presented the usual symptoms and appearances of chronic catarrhal inflammation, not only of one but of both ears, and the tests with the tuning-fork showed that there was no labyrinthine disease. There was nothing in this case to show that the blow had anything to do with the deafness; in fact, the principal testimony of reliable witnesses proved that the boy had been deaf for some time before the occurrence of the alleged injury.

A CASE OF
IRRIGATION OF THE KNEE JOINT
FOR CHRONIC SEROUS SYNOVITIS (WITH A COMPLICATION).*

By EVERETT M. CULVER, M. D.

Mr. President and Gentlemen: I have to relate as my subject a simple case, where a well-known operation was employed for the relief and cure of my patient.

I desire also to direct attention to one point in the operation that may be of some benefit to my fellow-members when about to perform the same.

I shall, moreover, endeavor to make my remarks more interesting to you by prefacing them with as much of the history of the subject as it is possible to give in my limited article.

We may count the birth of the theories of Lister as being in July, 1867, since Simpson's article first appeared at that date in the London "Lancet." Then followed articles by Lister himself in the years 1869 and 1870, which quite completed and confirmed those mighty theories that revolutionized the surgical world.

By these means the confidence of ambitious surgeons was stimulated to again successfully undertake the performance of operations theretofore positively fatal.

Operations upon the joints, and especially the knee, had long been looked upon as *derniers ressorts*, and, indeed, were but little performed, amputations above the diseased joints being preferred as much better and positively safer.

Indeed, many a limb had been sacrificed for so small a matter as a chronic synovitis, to say nothing of the severer cases resulting from traumatism or disease.

In the "Pitha-Billroth Archiv. für Chirurgie" R. Volkmann says that "as early as 1796 puncture of the knee joint for serous synovitis was practiced." Then by Goyraud, and at an early period of the present century by Bonnet (1845), and afterward by Velpeau, who practiced puncture and the injection of the tincture of iodine; but these were uncertain in their results, and very often proved fatal.

Puncture was also made with a tenotome, and the effused fluid let out into the surrounding connective tissue, the external wound being carefully closed by plaster and collodion. This method was also of doubtful value. The first to take practical advantage of the Lister antiseptic method for operations and wounds of the joints seems to have been Schede, then of Berlin.

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* Read at a stated meeting of the Hospital Graduates' Club.

In 1875 ("Centralblatt für Chirurgie," No. 10) he published an article, "On the Method of treating Wounds of the Knee Joint with Antiseptic Precautions," in which he praises the good results of the Lister dressing for draining the knee in acute suppuration of that joint, and details a list of six cases; three of these were for severe injury, in which acute suppuration had occurred. He advocates the making of incisions on either side of the patella, irrigating the joint with a solution of carbolic acid (strength not given), inserting drainage-tubes, applying antiseptic dressings, and removing the tubes from the wounds in from four to seven days after the operation. The dressings were removed at the end of fifteen days, and recovery occurred in all three cases, with perfect use of the limb without loss of motion. He details also three cases of fungous disease, of the ankle, the wrist, and the elbow joint, respectively, where an 8-per-cent. solution of zinc chloride was used, each attended with similar good results.

Following Schede, in the same year, C. Hüter published a case of perforating wound of the knee joint in which an incision was made into the joint at the point of its greatest swelling and pain, and a 2-per-cent. solution of carbolic acid injected, which relieved the pain and tenderness, and reduced the temperature. Unfortunately, no mention of the result is made.

In 1875, also, Franzolini, an Italian surgeon, reported two cases that he calls "synovitis hyperplastica granulosa," in which he injected 33-per-cent. and 55-per-cent. solutions of carbolic acid respectively, and, although solutions of this almost corrosive strength were used, it is reported that when injected at the seat of greatest swelling they relieved the pain better than morphine, and reduced the temperature, and for a time the patients seemed to be much benefited by the treatment. Unfortunately, however, both eventually died from tuberculosis.

If one desires to read the most masterly articles upon the subject under consideration, he would do well to turn to F. Rinne's two papers in the "Centralblatt f. Chirurgie," Nos. 49 and 50, for 1877. These occupy almost the entire space of two numbers of that journal, and, although somewhat wearying to read, as they view the subject from every point, are fullest in detail and technique, and will fully repay one contemplating this operation. After reviewing the older methods of treatment, and the clumsy, not to say almost barbarous, varieties of immobilizing apparatus, all of which are of doubtful benefit, he advises by all means the method of irrigation.

Then follow the indications for treatment, the complete *modus operandi* of the operation, and a detailed history of eleven cases, dating from February 17, 1876 (less than a year from the date of Schede's paper), nearly all of which were for more or less acute and chronic cases of effusion in the knee joint. He sums up as follows:

Nine cases fully cured, with full return of competent joint action, one patient dying from tuberculosis, and one being so far relieved as to be able to go around with the use of a stick, whereas he had been confined to his bed for some years previous.

In a second paper he advocates the same method for the relief and cure of effusions into the joints from acute and chronic rheumatic troubles (probably gonorrhœal).

From this date on the French and German journals contain almost monthly articles describing the success of these operations at the hands of different Continental and English surgeons.

Notably may be mentioned one by Jules Boeckel, "Gaz. des hôpitaux," pp. 1147 *et seq.*, in which he recognizes the serious nature of diseases of the joints, and points out the theretofore almost fatal results of the same, either from the absorption of pus from a synovial cavity, or from the consequent amputations necessary.

He pronounces the method of irrigation of joints one of the greatest advances of surgery.

This eminent writer divides the cases into two elementary classes—namely, those in which the joints have been opened by an accident or injury, and those where it becomes necessary to either puncture or incise them.

Fifteen cases are related by him: seven cases for simple hydrops articuli, and eight cases for accident involving the knee joint by opening the capsule together with bony and tissue lesions, and the presence of blood and pus within the joint, the former having been treated by irrigation made through a trocar or by the aspirateur of Potain, the latter by drainage.

M. Nicase (November 16, 1881) reported a double case of the same, operated upon at an interval of four months, showing, after the seventh month of the second operation, a complete cure.

In 1882, Volkmann ("Centralblatt f. Chirurgie," No. 33) reports over one hundred cases; his paper, however, communicates but one new feature to the already full list of successes. It is a well-known fact that after a joint has been the seat of chronic inflammation for a length of time, the lateral ligaments become relaxed, and the joint is then unsteady, permitting unnatural lateral movement and rotation upon its long axis.

This defect, Volkmann says, may be remedied and the joint brought to a perfect mechanical relation, if not at least to its normal condition, by repeated irrigations with a 3½-per-cent. solution of carbolic acid, with an interval of four or five weeks succeeding each operation until three or four washings have been made.

R. F. Weir's paper, read by him before the Medical Society of the State of New York, and published in the "New York Medical Journal" of February 20, 1886, is the most concise and the clearest paper I have yet seen, citing some of the references to which I am indebted for part of the foregoing history.

This article gives a clear and good description of the necessary technique, and presents a list of five cases operated upon by him, each attended with a complete cure, and advises the operation upon all patients with serous synovitis that have not been benefited by three months' treatment by the older and commoner methods.

I trust I have not wearied you by reciting the foregoing history, and I shall hasten to lay before you the case that presented itself for examination at the New York Hospital, Out-Patient Department, in June, 1884, and which I have made the subject of this paper.

Mrs. S., aged twenty-five, U. S., married. The patient was a pale, anæmic-looking woman, had been married several years, had had no children and no miscarriages, and, although her appearance was unhealthy, had never had any serious illness. Her family history was good. There was no evidence of rheumatism or syphilis.

In June, 1884, she came to the Out-Patient Department of the New York Hospital for treatment of a swelling in her right knee. Careful questioning failed to elicit anything of the nature of a traumatism having occurred to the joint, nor had she at any time had anything like rheumatic trouble.

She stated that about six months previous to that time she had felt a little weakness in the joint upon going up stairs, but had supposed she had twisted her leg at some time without having noticed it. This had not troubled her at first except upon certain occasions, whenever she had been carrying a weight, or when she had walked a long distance. After a few months she had noticed a slight swelling in the joint, not at all red or shiny, but soft, natural in color, and only a very little larger than the joint upon the opposite side. The weakness had become greater and had caused at times a perceptible limp from the bending in or out of the leg at uncertain times. She had then consulted a physician, who had given her a powder to take thrice daily, and had painted the joint with tincture of iodine. This had seemed to help her for a time, but, although continuing the treatment for some two or three months, she had gradually become worse.

Upon a very careful examination of the joint at this time, I found only a moderate amount of fluid; the patella was somewhat elevated by pressure of fluid within, and could be made to click against the articular surfaces of the femur by a smart blow with the finger-tip. The capsule was but very little thickened, and one could easily pinch up a fold of it between the fingers for the purpose of ascertaining whether there were irregularities upon its inner surface or not. Upon examining the articular parts of the joint by manipulation, I could not discover any evidences of floating cartilage, nor any soft lipomatous bodies, either as fringes or as corpora libera. The skin was of natural color, the joint was about three quarters of an inch larger than that of the opposite side, and fluctuation was easily obtained.

After examination, the affection was recognized as a case of serous synovitis. I therefore advised wearing an elastic webbing bandage of moderate strength over the knee, and during treatment favoring the joint as much as possible, and ordered her Blaud's pills for her anæmia, commencing with three thrice daily and gradually increasing to six thrice daily; then stopping them entirely and taking an interval of a week after reaching that number, and an occasional saline purge to prevent any possible concretion of the iron occurring.

In a few weeks she returned and begged me to put on a splint (some friend having suffered with a like trouble, and having been relieved by one), saying that she must attend to her household duties, and that the joint had grown larger and the weakness more pronounced.

Upon a second examination being made, it was found that the joint was more enlarged than before. A plaster splint was therefore applied long enough to immobilize the knee, and the patient went away; this was worn for three or four months, when it was cut open, and the effusion had considerably diminished. So soon, however, as the patient had gone about for a few weeks without the splint (although a rubber bandage had been worn) the swelling was greater than before, and, to make a long and tedious history of the case short, at the end of a year (June, 1885) she was advised to have the joint washed out. I advised her to go into the hospital and have the operation performed there, but she would not consent. After another year had gone by, during which time she was treated with all the usual methods of blisters and counter-irritations by the Paquelin cautery and the compound ointment of iodine, and with the reappliance of the splints, she finally consented that I should come to her house to perform the operation I had so long counseled her to have done.

Remembering Dr. Weir's article, already mentioned above, in which he advocated an operation for similar cases persisting over three months which could not be cured by the ordinary methods already detailed, and thinking the time limit a little short, I determined to examine some articles upon the conservative side of the case.

Dr. Judson kindly directed me to such an article in the "Boston Medical and Surgical Journal" of 1882, which may be summarized as follows: That, although these cases are annoying to surgeon and patient alike, still, as they cause no pain and but little annoyance, and principally from the fact that no one in such situations is likely to *see* them, they should be treated in a most conservative manner, and no operation for their radical cure be ever attempted.

This sage advice, in the light of progressive surgery and the repeated good results of foreign and home surgeons, was not altogether satisfactory, and, feeling that, under perfectly antiseptic precautions, such a case might be most satisfactorily undertaken, I asked Dr. Weir's advice, which was to operate by all means. He gave me at the same time many valuable hints as to the proper treatment and procedures.

On April 15, 1886, with the assistance of Dr. Stokes, we performed the operation as follows:

Carefully examining the joint by deep digital pressure, we were not able to make out either any roughened bodies on the deep surfaces of the joint, or much unevenness of the capsule itself.

The outer side of the knee at the place selected for puncture was injected with a 4-per-cent. solution of cocaine into the skin itself, taking care that it did not get into the subcutaneous tissue; the joint and surrounding parts were scrubbed with a nail-brush, using the bichloride-of-mercury soap and a solution of the bichloride (1 to 1,000), and we were then ready for the operation.

We had provided a fountain syringe with a metal nozzle, and a large-sized trocar and cannula, the nozzle made to fit into the latter, all the steel instruments having been boiled in a carbolic solution, and everything else thoroughly antiseptically cleansed, also one thousand grammes of a 1-to-30 solution of carbolic acid made from distilled water, carefully filtered and warmed to 80° F.

The technique of the operation is to plunge the trocar into the lower and most distended portion of the synovial pouch, the assistant meanwhile making careful pressure over the whole joint with both hands, so that the serous fluid may first flow nearly out, and then the joint is to be carefully distended with the irrigating fluid, and by pressure gently emptied, and this is to be repeated until the fluid comes out clear, using from 450 to 1,000 grammes of the irrigating fluid.

I selected a point just below the lower edge of the patella, and plunged in the trocar; only a few drops of amber-colored fluid flowed out, even on pretty firm pressure. We then let some fluid flow into the cannula, and, to our surprise, only a small area of the joint was distended by it, although the bag was at an elevation of five or six feet and must have exerted a pretty considerable amount of pressure. The nozzle of the fountain syringe was then removed, but only a very small quantity of bloody fluid came out from the cannula. This was repeated several times, each with a like result, and I thought I had struck what is known as a "dry tap," until it suddenly occurred to me that I must have pushed the trocar into the præpatellar bursa, which was the seat of either an inflammation or an effusion.

Just here I should describe the appearance of the joint, to explain the circumstances that led me to make the mistake that, however easily rectified, caused considerable consternation to me.

The joint was about three inches and three quarters larger than the sound one. The superior pouches on the inner and outer side were distended, as also was the pouch on the anterior aspect of the femur under the extensor muscles of the thigh, the inferior pouches only moderately distended; good fluctuation all over joint; the patella "danced" upon the fluid, but at the time was not observed to be situated at a distance from the surface—*i. e.*, occupying a middle position, as having *fluid above* and *below*.

Such, however, must have been the case, for I am positive that no normal bursa (præpatellar) could have held the amount of normal fluid that this one did, nor have been distended through such a wide area as to have misled us to several attempted washings before I found my mistake.

I shall take occasion here to remark that whenever it is my good fortune to do another operation of this kind, I shall follow the details that I am about to explain.

After clearing up the joint very carefully from the blood, as there had been a small amount of hæmorrhage, I grasped the patella very firmly with my fingers, made some traction upward, withdrew the trocar and cannula outward until the point was past the edge of the patella, being careful not to withdraw it entirely, but using the original tract from which to change the direction, pushed the instrument under and *not over* the patella, and was at once able to appreciate that the point was now free in a large cavity; and, upon withdrawing the trocar, was delighted to see a large, steady stream of a pale straw-colored fluid flowing out. This was perfectly clear, thin, and somewhat sticky; free from lumps or flakes of fibrin.

About three ounces and a half of this fluid were evacuated. The joint was fully distended several times with the 3-per-cent. solution of carbolic acid until the returning fluid ran perfectly clear, at each irrigation making a general kneading and massaging of the joint in order to bring the fluid into contact with every part of the joint, a point much insisted upon by all writers.

The cannula was then withdrawn with a jerk, while pressure was made on the joint to prevent any possible entrance of air; a soft rag soaked in carbolized oil was laid over the trocar wound in order to guard against the entrance of bacteria, and at the same time to allow draining and oozing from the wound. This little wrinkle I had gained from observing that where iodoform is dusted or blown upon a wound, in a very short space of time it becomes firmly mixed with the blood, making a hard plug, which often prevents primary union. An antiseptic dressing of the sublimate gauze and borated cotton was firmly applied a hand's breadth above and below the joint; over this were laid a few turns of a plaster bandage—enough to immobilize the limb from present action.

During the operation the patient had experienced no pain whatever, merely exclaiming "What a queer sensation!" when the trocar entered the joint and the fluid commenced to flow out. She was, however, extremely nervous; but after a drink of warm wine, and so soon as the dressings were in position, she immediately became cheerful. The temperature on the afternoon of the same day was normal.

April 16th, A. M.—Temperature 101·5° in mouth. Quinine sulphate, grs. x. No pain.

P. M.—Temperature normal.

No other reaction followed during the whole convalescence.

The patient was kept in bed ten days. At the end of the seventh day, however, the original bandage was cut up. The trocar wound had entirely healed; the joint was much more swollen than before the operation, but this I took as a good sign, since all who have done this operation have frequently observed that a fresh exudation generally takes place which is quickly removed; a new dressing was applied with only one or two layers of a plaster bandage, and the patient allowed to make some slight movement of the limb in bed.

On the eleventh day the patient got up and sat upon the sofa, making more and more movement in the joint until the fifteenth day, when she was advised to walk around about her household duties, the swelling having almost entirely disappeared.

It is now nearly eight months since the operation was performed. The joint is but half an inch larger than the opposite one, the capsule thickened to some extent, and the looseness of the whole joint effectually remedied, the patient going about without any pain or trouble whatever, the effusion never having returned. The accidental opening into the præpatellar bursa no doubt might, under some circumstances, have caused a cellular inflammation, and certainly was an unpleasant error. Under the conditions related, however, it not only has taught me a good lesson, but cured an unsuspected bursitis.

Permit me, in closing, to say a word as regards the pathology of these cases. Barwell gives a concise description of them, so far as their known ætiology and the microscopic examination of the joints are concerned.

They occur principally in persons who are debilitated, whose vessels are too much weakened to recover their tone when injured, after having had synovitis, or the synovitis which comes without previous or accompanying inflammation and is not attended by any change in structure of the joints.

The change in these cases occurs simply in the serous membrane itself, and never invades the deeper layer of the periarticular connective tissue. The inner surface of the capsule becomes opaque in some places, while patches or fringes of new connective tissue may cover a part or the whole surface of the inner side of the capsule.

The greater the amount of connective tissue found upon the surface of the membrane, the greater has been the quantity of serum found within the joint.

The quality of the exudation has been found to be an index also to the grade of the disease. The lighter-colored fluid and that freest from fibrin and coagula seem to accompany the lightest cases.

The accumulation of fluids in the joints, while analogous to the well-known effusions into the tunica vaginalis testis or the membranes of the spermatic cord, resembling them in some of their chemical constituents, notably albumin, salts, and fibrin, contains but a small amount of mucin. These effusions can not, moreover, be removed by active purgation, and no amount of serum removed from the venous system can in any way possibly affect the fluids so contained within the joints.

For a most excellent pathological description of this disease, together with indications for the treatment and technique of the same, see Billroth's "General Surgical Pathology and Treatment," Lecture XXXVIII.

REPORT OF A CASE OF POISONING BY FLUID EXTRACT OF BELLADONNA.

By STANLEY M. WARD, M. D.,
ELLENVILLE, N. Y.

At 12.45 A. M., March 11, 1887, I was summoned to Lottie N., aged about twenty, who was reported as having taken poison. On entering the room, I saw the girl, supported by her mother and sister, who were endeavoring to walk her through the room and adjoining hall. She was unable to stand alone, and staggered when unsupported as if under the influence of alcohol. A rapid examination of the patient, revealing dilated pupils, hurried respirations, feeble and quickened heart's action, with excessive volubility, though her articulation was indistinct, aided by the fact that a half-ounce phial of fluid extract of belladonna had been found in her dress-pocket, disclosed the cause of the symptoms. She was lifted on the bed, and then began one of the most perfect pantomimes I ever saw. The "busy delirium" so well described by writers on materia medica and therapeutics was typical. She sewed imaginary stitches in imaginary dresses, washed her face and hands "with impalpable soap in imperceptible water," applied hypothetical powder, and dressed herself with intangible clothing—she was doing something all the time, it mattered little what it was. She muttered and mumbled a good deal of the time, at times laughed and smiled, at others cried. She seemed to be in an entirely different sphere and lived regardless of all her surroundings. I gave her an eighth of a grain of morphine sulphate hypodermically, and in twenty minutes repeated it. The phial had contained a half-ounce if it was full; now it had in it but a trifle over a drachm; how much she had taken was only a matter of conjecture. Before my arrival, presumably two hours at least after the drug had been swallowed, her mother had given her a teaspoonful of warm mustard-water; this was followed by emesis, but the girl refused to swallow any more. Taking the condition of the pupils, immoderate dilatation, respirations 40 to 60 a minute, the quickened and weakened heart's action, with the most absolute wakefulness I ever saw, I gave another eighth of a grain of morphine hypodermically at 2.30 A. M., and in a half-hour gave the same dose by the mouth, inducing her to swallow it easily. I attempted to give her some strong coffee, too, in the same way, but this she spat out with great glee. At four o'clock the delirium became less active, the respirations lessened in number, and the heart's action more regular; she still sat upright on the bed and attempted to sew and to perform other occupations, but there were not the same tenacity of purpose and thoroughness of action, and occasionally she would lose her balance and partially fall, though she recovered quickly; the pupils were still very large and she voided urine involuntarily. At five o'clock I gave her one sixth of a grain of morphine by the mouth and left her until eleven. During the interim she had dozed a little, had been quite "busy" at times, was now quite rational, and had, a little while before I came in, asked for something to eat. When shown the bottle of belladonna and asked how much she had taken, she indignantly denied ever having seen it before; complained that her arm was sore where the punctures had been made with the hypodermic needle; but when asked the reason, replied that she "absolutely refused to answer—that it was none of my business." Pupils somewhat smaller than in the early morning, but still much dilated. I gave one sixth of a grain of morphine by the mouth. Saw her again at 11 P. M. the same day. She had rested very well during the day and slept some. Her pupils were dilated, throat a trifle dry, no eruption. Gave one eighth of a grain of morphine. She refused to say anything about the belladonna, except that she had bought the bottleful on the night of the poisoning, and had taken a little about ten o'clock to relieve a toothache. Three days afterward I again saw her and found a slight rash on her face and chest, with a tympanitic abdomen. Her ankles also were somewhat bloated. Whether or not these last two symptoms may be referred to the belladonna, I have no means of knowing. She then informed me that she had saturated a piece of cotton with the drug, and applied it to a tooth instead of swallowing it. I can not believe this, as her conversation early in the evening would go to show that she contemplated suicide.

Correspondence.

LETTER FROM LONDON.

Moore's Treatment of Aneurysm.—Dr. Broadbent on the Pulse.—The Croonian Lectures in the Future.—Guy's Hospital.

LONDON, *April 21, 1887.*

At the last meeting of the Royal Medical and Chirurgical Society the subject of Moore's treatment of aneurysm occupied the evening. The debate was opened by Dr. Pringle, who reported a case of abdominal aneurysm in which, after the usual treatment had been tried unsuccessfully, Mr. Henry Morris had performed laparotomy and introduced some wire into the aneurysm. The chief difficulties encountered were the introduction of the wire into the cannula, which was of necessity held deep in the abdomen, and the adjustment of the cannula. Between the outward force of the pulsation and the inward force of pressing the wire into the sac, the danger of the cannula slipping out of the aneurysm must have been not inconsiderable. Only about a foot of wire could be introduced, owing to a kink that formed in it. The patient did well for two days, but ultimately died on the fifth day from asthenia. At the autopsy the aneurysm was found to arise from the aorta at the level of the cœliac axis. It was saccular and filled with clot, more than one third of which was laminated and considered to be due to the treatment. Mr. Gould and Mr. Hulke followed with cases of thoracic aneurysm treated in like manner, but in their cases also a fatal result had ensued. The discussion chiefly turned on the amount of wire that ought to be used, on the advisability of introducing it all at one time, and on the best material for introduction. Mr. Bryant thought that fishing gut or horsehair might be used, but Mr. Morris objected that they would not be likely to coil up in the aneurysm. Mr. T. Smith suggested that the wire should be introduced through a hollow needle, such as he used for cleft palate, with a fishing-rod reel at the end of it; and there will be little doubt in the minds of those who have seen this ingenious little instrument that it would be well adapted for the purpose. It is worthy of note that, with the exception of Mr. Barwell, who would seem to be always ready to try any novelty, this operation for aneurysm has not found favor anywhere but at the Middlesex Hospital, for all the cases just referred to were under the care of Middlesex men.

Dr. Broadbent has delivered the last of the old series of Croonian lectures, having taken the pulse for his text. As he was well known to have worked a great deal at this subject it was expected that his lectures would arouse a good deal of interest; and so no doubt they did, but it must not be measured by the somewhat scanty audiences that he attracted, for the weather was at its worst at the time, and no one cared to be out at six o'clock in the evening if he could help it. The chief interest in these lectures will be the virtual renunciation of the sphygmograph as a reliable guide in diagnosis or prognosis, a most important step, seeing that Dr. Broadbent was one of the pioneers with that instrument. The lectures will be published by the Messrs. Cassells in the excellent series of clinical manuals that they are now issuing, and may certainly be expected to be one of the best of the series.

I said that he gave the last of the old series of Croonian lectures, and so it is, for the lecturership has been entirely remodeled, and the new scheme comes into operation forthwith. The Croonian lectures were founded some two hundred years ago out of a trust fund left by a lady for that purpose; the money, I believe, was derived from property in the city, in Warwick Lane, where the College of Physicians was then located, and since last year, owing to the expiration of some long leases and the rise in value of property in the city, the income of the trust has risen from about £15 per annum to something over £200. This made some some recasting of the lecturership necessary, as the payment would have been quite out of proportion to the work done in the existing lecturership, and it would have been rather hard on the other college lecturers. The matter was therefore referred to a committee, and, after many discussions, it has now been finally settled that the lecturer shall deliver four lectures on some subject "in anatomy, physiology, or pathology, with a view to the prevention, control, and cure of disease." It is expected that the lecturer will engage in original observations and bring his results forward in his lectures, and he will be assisted in this work by grants from the trust fund, for the fee for the lectures has been fixed at £100, leaving a good balance in the hands of the college wherewith to encourage research. The lecturer is to be re-eligible, and it is hoped thereby that some man with energy and time will hold office for several years, and be thus enabled to do some really good work.

The authorities of Guy's have announced that for two of the existing vacancies they will receive applications from men not connected with the hospital. There is a good deal to be said in favor of their desire to introduce new blood into the school. The appointments have been so numerous of late years that it is not to be expected that men of sufficient caliber could be so constantly supplied from within; but, on the other hand, it is a somewhat risky step, and the introduction of outsiders has not always at some of the other large schools been found a success. In this matter I believe Guy's is the most conservative school in London. The contributions toward the funds of the hospital have not yet reached £60,000, which does not look as if they would get the required amount, £90,000, by the 1st of May. If they do this, they have the promise of a donation of £10,000 to complete the total they originally asked for.

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URETHRAL DISCHARGES OF CONSTITUTIONAL ORIGIN.

WHILE the researches that have recently been made concerning the supposed parasitic nature of gonorrhœa and its specific germ are entitled to respectful consideration, it must be admitted that the methods of diagnosis which they have thus far afforded are not very satisfactory. It would seem that to distinguish between the alleged virulent form of urethritis, which is supposed to depend upon a special microbe, and the various other forms of urethral inflammation with the aid of the microscope would be no very difficult task. But peculiar difficulties have been encountered, arising from the fact that in the urethral secretions, even when apparently normal, many different forms of bacteria occur, some of which are easy to be confounded with the alleged specific germ. Diplococci of an indifferent nature appear, which bear the closest resemblance to those that have been fixed upon as the essential cause of gonorrhœa, and the two forms can be distinguished only by mere shades of difference perceived in coloring. The methods first proposed by Neisser for the identification of the gonococcus have since proved wholly inadequate to the purpose. Moreover, it is the common experience of those who pursue these investigations that in the most suspicious cases of blennorrhagia the gonococcus has been found wanting or strangely elusive. Here, as elsewhere, it not infrequently happens that the microscope affords less satisfactory evidence regarding the nosology of the disease than the grosser methods of clinical observation.

It is well known that inflammation of the urethra may arise from a variety of causes. Some of them extraneous to the organism, such as traumatisms and contact with chemical irritants, toxic agents, morbid secretions, and vitiated pus, and very possibly a distinct form may be due to infection with the gonococcus; others are inherent in the individual, or constitutional. Of these latter we have comparatively little knowledge. Their characteristic features form the subject of a recent paper by Deligny ("Union médicale," March 10, 1887), entitled "Contribution à l'étude des écoulements uréthraux d'origine constitutionnelle." Various diatheses have been said to be capable of causing urethral inflammatory symptoms—more especially, the arthritic, the herpetic, and the strumous. Another, which has a much greater interest, but to which Deligny makes no allusion, is the syphilitic. Henry Lee and others have described certain urethral discharges as peculiar to syphilitics, occurring sometimes at the inception of the disease and sometimes in the secondary period, and have given reasons for attributing to them the property of conveying syphilis. The strumous diathesis, according to Bazin, may excite a blennorrhœa which has distinctive traits. In young girls it appears in the well-known form of a purulent inflammation of the vulva, while in men it usually assumes the form of prostatorrhœa. Certain writers, Swediaur for example, have alleged that herpetism may be the cause of a urethral discharge, but the statement has received but little corroboration.

But, of all the constitutional conditions that may play a part in urethral inflammation, by common consent the arthritic diathesis stands first. Many writers have noted instances in which a urethral discharge has co-existed with gouty or rheumatic attacks and been apparently symptomatic of a constitutional malady. Some of these writers have described purulent forms of inflammation closely resembling virulent gonorrhœa. Besnier, however, in this connection has called attention to the fact that rheumatism never gives rise to suppurative forms of inflammation, unless under very exceptional conditions; and Deligny is disposed to question the correctness of those reports in which purulent forms of urethritis have been attributed solely to the constitutional condition. It would be easy to believe that in such cases the diathesis acted rather as a concomitant than as the exciting cause. Certain it is that the influence of arthritism is most commonly manifested in the way of aggravating or protracting a urethritis originally provoked by some other cause. It has been intimated also that, when a urethral discharge has followed the ingestion of certain substances, such as asparagus, pepper, guaiacum, beer, and the like, it has always been associated with some constitutional vice, and in most instances with the gouty or rheumatic habit. When the urethral disease is purely arthritic, Deligny maintains that it is invariably in the form of a subacute and non-purulent inflammation. The writer presents the histories of four cases in illustration. It can not be said that he has presented any evidence of the urethral discharge being due to arthritism which can be regarded as conclusive; nor have we sufficient evidence that the affection must always bear the subacute character which is assigned to it. The practical deduction which the writer draws relates to treatment, and is expressed in the form of a caution against severe local interference with a urethral discharge that may be presumed to be gouty or rheumatic. By refraining from such interference we may avoid converting into a grave and prolonged urethritis what would otherwise have remained a simple muco-serous discharge tending to prompt spontaneous recovery.

NEW INDICATIONS FOR HYSTERECTOMY.

In a recent number of the "Centralblatt für Chirurgie" we find an abstract of an article by Professor B. S. Schultze, of Jena, published in the "Deutsche medicinische Wochenschrift," in which he describes a case of supra-vaginal amputation of the uterus done on account of the decomposition of a placenta retained in a portion of the uterine cavity so shut off from the remainder that, the cervix being very narrow, the mass could not be removed by the ordinary means. Schultze argued that the uterus contained a source of systemic infection not otherwise to be got rid of, that it was the only source of such infection present, and that, if not interfered with, it was sure to give rise to the infection. Happily, his patient recovered. The indication may be said to have been legitimate, although novel.

Not so much can be said of a series of sixteen more or less complete hysterectomies performed by a Cologne surgeon, Herr Frank, whose account, entitled "Ueber extra-peritoneale Uterusexstirpation," published in the "Archiv für Gynäkologie," is made the subject of criticism by Dr. C. H. Stratz, in an article headed "Ueber Furor operativus," contained in a recent issue of the "Centralblatt für Gynäkologie." While Dr. Stratz credits the editor of the "Archiv" with freedom from partisanship, he feels that, in the interest of humanity, the Cologne hysterectomist's enormities ought to be shown up; and so do we. It seems that only five of the operations were done for cancer, while the procedure was resorted to four times for endometritis, three times for retroflexion or retroversion with fixation, twice for prolapse (complicated in one instance with endometritis), once for "pruritus uterinus," and once for neuralgia and retention of urine! We should like to know what the Liverpool committee in the Imlach case would think of such a record as this.

Herr Frank seems not to have been over-particular as to niceties of diagnosis, if the statement is true that in one instance he was led to perform the operation because, "besides the pains in the sacrum, the patient quite precisely indicated the situation of the uterus as the point from which the wholly unbearable pains proceeded." But, in view of the variety of lesions that he evidently looks upon as indicating the operation, it is hardly to be wondered at that he should have considered precision in diagnosis a work of supererogation. We may suggest to those who are anxious to obtain the views of their professional brethren that they endeavor to ascertain if there is any abnormal state of the genitalia in women that some enthusiast does not consider an indication for removal of the uterus, the ovary, the oviduct, or all three.

MINOR PARAGRAPHS.

THE RAG IMPORTERS' SUIT.

The result of the trial of the case of Lockwood & McClintock *vs.* E. B. Bartlett & Co. and Dr. Smith, the health officer of the port, is doubtless gratifying to the rag importers from the fact that Bartlett & Co. have been mulcted in damages. It would have been more satisfactory to the medical profession, represented *nolens volens* by Dr. Smith, if that official's exculpation had been more decided than the disagreement of the jury can be interpreted as signifying. The charge that he had entered into a conspiracy with the Bartlett company is not all that has to be taken into account, and the failure of the testimony to convince the jury of the justness of that charge does not do away with the plain fact that the health officer is bound to superintend any disinfection that he orders, and is not justified in turning cargoes over to the mercies of a corporation.

THE SCHOOL OF PHARMACY OF CORNELL UNIVERSITY.

In the "Cornell University Register" for 1886–'87, various interesting particulars are given concerning the new school of pharmacy, which is to be opened to students at the beginning of the autumn term of the current year. The course is to extend over two full college years, and is to include, besides the branches usually taught in colleges of pharmacy, laboratory work in analytical and pharmaceutical chemistry, toxicology, and microscopical botany. Candidates for admission must be eighteen years of age, and must pass the regular English examinations, besides an examination in German or Latin. Those who fail in German may be admitted provisionally, being required to pursue the study of that language in addition to the regular work of the course. Those who have been engaged in the business of pharmacy for two years may be admitted as special students (not as candidates for a degree) without examination.

THE CHARITY ORGANIZATION SOCIETY.

On several occasions we have commended the objects and the workings of this society. Among its recent praiseworthy achievements is to be mentioned the conviction of one of the promoters of the St. George Medical Dispensary, on the charge of practicing medicine without a diploma. Thinking there was reason to suspect the genuineness of this so-called charity, the society "thus," says the "Commercial Advertiser," "reached a result on technical grounds which it would have been much more difficult to reach in any other way, and which it was very desirable to reach, if we may judge of the case by the utterance of Recorder Smyth, who is reported to have said, in passing sentence, 'the scheme was a fraud from beginning to end—one of those pestiferous nuisances that affect a large community and swindle the people out of their money.'"

CEREBRAL DEVELOPMENT AND THE NASAL PASSAGES.

Dr. Allen's remarks on the degenerate state of the nasal passages in man (see the discussion of Dr. Rice's paper, in the proceedings of the American Laryngological Association, published in this issue of the Journal) are interesting not only from the comparative anatomist's point of view, but as relating to one more illustration, added to the multitude already known, of the directness with which feminine instinct arrives at conclusions that scientific research takes centuries to reach. How can we explain the fondness of women for the pug on any other theory than that they have jumped to the conclusion that, since his cerebrum has encroached more on his nasal area than is the case with other dogs, he is the most civilized of all? And what do they care if that encroachment is considered degeneration?

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 3, 1887:

DISEASES.	Week ending Apr. 26.		Week ending May 3.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.	2	0	8	2
Scarlet fever.	56	15	47	8
Cerebro-spinal meningitis	1	1	6	5
Measles.	86	6	81	4
Diphtheria.	89	38	104	41
Small-pox	4	0	15	5

An Honorary Degree.—The "Lancet" states that the University of Edinburgh has conferred the degree of LL. D. on Professor Kölliker, of Würzburg.

Recent Changes of Address.—Pending the appearance of the forthcoming volume of the "Medical Register," it may be serviceable to some of our readers to know that the following changes in New York physicians' addresses have come to our knowledge:

Born, R. O., from 131 W. 34th St. to 25 W. 34th St.
Bozeman, N., from 307 5th Ave. to 9 W. 31st St.
Brown, C. H., from 62 W. 19th St. to 25 W. 45th St.
Coe, H. C., from 124 E. 55th St. to 987 Madison Ave.
Conrad, L., from 27 W. 51st St. to 112 E. 57th St.
Culver, E. M., from 419 Madison Ave. to 120 W. 95th St.
Gerster, A. G., from 107 E. 23d St. to 56 E. 25th St.
Girdner, J. H., from 69 W. 36th St. to 120 W. 35th St.
Hawley, J. S., from 17 W. 9th St. to 17 Waverley Place.
Heppenheimer, F. C., from 783 Lexington Ave. to 112 E. 57th St.
Holt, L. E., from 23 Park Ave. to 15 E. 54th St.
Kinch, C. A., from 256 W. 54th St. to 285 W. 70th St.
Newman, R., from 68 W. 35th St. to 68 W. 36th St.
Pardee, C. I., from 57 W. 37th St. to 34 W. 38th St.
Satterthwaite, T. E., from 251 Madison Ave. to 17 E. 44th St.
Schottky, E., from 107 E. 23d St. to 56 E. 25th St.
Seguin, E. C., from 24 W. 50th St. to 419 Madison Ave.
Shaffer, N. M., from 31 W. 36th St. to 28 E. 38th St.
Shultz, R. C., from 151 E. 85th St. to 178 E. 76th St.
Starr, M. A., from 34 W. 38th St. to 22 W. 48th St.
Vineberg, H. N., from 635 Lexington Ave. to 123 E. 59th St.

A Town in Need of a Doctor.—Looking abroad, we occasionally find out what is going on at home. The reflection is called up by an advertisement in one of the Berlin medical journals, by which it appears that some of the people of St. Cloud, Minnesota, desire a Catholic physician, and that they guarantee his being able to earn an income of from seven to ten thousand marks.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 24, 1887, to April 30, 1887:*

Woodruff, Charles E., First Lieutenant and Assistant Surgeon (recently appointed). Ordered for duty at Fort Wayne, Mich. S. O. 96, A. G. O., April 26, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending April 30, 1887:*

Russell, A. C. H., Passed Assistant Surgeon. Ordered to duty at the Naval Laboratory, New York, May 2, 1887.

Heffinger, A. C., Passed Assistant Surgeon. Ordered to Widow's Island, Me., to superintend building a naval hospital, wharf, and other improvements, under instructions of the Surgeon-General of the Navy.

Woodruff, Charles E., Assistant Surgeon. Resignation accepted, to take effect April 8, 1887.

Atlee, L. W., Assistant Surgeon. Ordered to the Receiving-ship Vermont.

Biddle, Clement, Passed Assistant Surgeon. Detached from the Naval Academy and ordered to the Naval Rendezvous, Philadelphia, Pa.

Ashbridge, Richard, Passed Assistant Surgeon. Ordered to the Naval Academy.

Hudson, A., Medical Inspector. Ordered to the U. S. Steamer Trenton.

Hibbett, C. T., Passed Assistant Surgeon. Ordered to the U. S. Steamer Trenton.

Decker, Corbin J., Assistant Surgeon. Detached from the Receiving-ship St. Louis, and ordered to the U. S. Steamer Trenton.

Society Meetings for the Coming Week:

Monday, *May 9th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private);

New York Medico-historical Society (private); Lenox Medical and Surgical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *May 10th:* New York Medical Union (private); Medical Societies of the Counties of Albany (semi-annual), Greene (annual—Cairo), and Rensselaer, N. Y.; Newark, N. J. (private), and Trenton, N. J. (private), Medical Associations; Medical Societies of Camden (annual—Camden), Morris (annual), and Sussex (annual) Counties, N. J.; Norfolk, Mass., District Medical Society (election—Hyde Park); Franklin, Vt., County Medical Association (annual).

Wednesday, *May 11th:* American Surgical Association (Washington); New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Pittsfield, Mass., Medical Association (private); Franklin (annual—Greenfield), Hampshire (annual—Northampton), and Worcester (annual—Worcester), Mass., District Medical Societies; Philadelphia County Medical Society (conversational).

Thursday, *May 12th:* Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *May 13th:* New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *May 14th:* Obstetrical Society of Boston (private).

OBITUARY NOTES.

Alfred Meadows, M. D., F. R. C. P., of London, the obstetrician to St. Mary's Hospital, died somewhat suddenly, as we learn from our London exchanges, on Tuesday morning, April 19th, in the fifty-fifth year of his age. It seems that for some time his health had been manifestly deteriorated, with signs of cardiac weakness, and that the severe suffering incident to a sharp and sudden attack of colic so depressed the action of the heart that it failed to respond to treatment.

Dr. Meadows was well known in this country by his excellent "Manual of Midwifery," but chiefly as the translator of Bernutz and Goupil's "Clinical Memoirs on the Diseases of Women." His personal character caused him to be more than ordinarily esteemed by his fellow-physicians of London. He was actively engaged in practice and in society work up to the time of his fatal attack.

Frederick M. Dearborne, M. D., surgeon, U. S. Navy (retired list), died in this city on Sunday, April 24th, at the age of forty-five. He was born in Malden, Mass., was graduated from Harvard Medical School, and was appointed an assistant surgeon in the navy, September 15, 1864. In 1867 he was promoted to the rank of passed assistant surgeon, and attained that of surgeon May 21, 1875. On December 10, 1883, he was placed on the retired list. His death, which was somewhat unexpected, is said to have been due to pneumonia and chronic diarrhœa, the latter being the result of Chagres fever contracted while in service at Panama about ten years since.

Gustavus P. Pratt, M. D., of Cohasset, Mass., died on Friday, April 29th, at the age of forty-seven. The deceased was born in Cohasset, received his early education at the Phillips Academy, Exeter, N. H., and was graduated from Harvard Medical School in 1863. Immediately after his graduation he was appointed an assistant surgeon of the Thirty-third Massachusetts Regiment, and was afterward transferred to the Nineteenth Regiment, of which he was made surgeon. He was subsequently appointed a brigade surgeon in the Army of the Potomac, in which capacity he served until the close of the war. In 1867 he settled in Cohasset, where he has since resided. His death is said to have been the result of pneumonia, with which he was attacked in February last.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of March 3, 1887.

Dr. Charles Carroll Lee in the Chair.

The Pathology and Treatment of Epilepsy.—Dr. William H. Thomson read a paper on this subject. Sometimes the most striking symptoms of a disease were most misleading, because they diverted attention from the essential features. This was true, he thought, of the motor or convulsive symptoms in epilepsy, for, while these were most striking, and were apt to absorb the attention, they were not essential, as in many cases they were entirely absent. The essential feature must be present in all cases, and he regarded it as *suddenness.* He did not regard epilepsy as necessarily a convulsive disorder at all, and in the place of a definition based on this view of the case he would offer the following: "Epilepsy is a disease characterized by sudden but temporary loss of function on the part of one or more cerebral centers, the attacks being introduced probably in every case by an afferent impression."

After reciting an illustrative case in which the principal or only symptom at times was the sudden development of temporary aphasia, he asked, What were these attacks of aphasia? Were they imperfect attacks of epilepsy? Were they partial or incomplete epilepsy? Were they almost, but not quite, epilepsy? or were they anything else than epilepsy?

It was in just such cases, he thought, that there was the whole disease with all its serious import, although there was not a single motor symptom. At times this patient had the so-called initial aura, then loss of consciousness, then the convulsion. The essential and invariable element in epilepsy was thus seen to be suddenness. Epilepsy was the only truly sudden disease. This feature was only apparently present in certain other diseases, which might be rapid in their onset, but never sudden in the sense that epilepsy was. All recurring symptoms, whether sensory or motor, when characterized by suddenness, were ominous because they suggested epilepsy. The homicidal tendency, mental degeneration, etc., occurred in cases of epilepsy called *petit mal*, as well as in those called *grand mal.*

The author then gave illustrations to show that epilepsy was characterized by weakness rather than by an excess of energy; by a paralysis of nerve centers (sensory, he believed) rather than by an explosion. A propeller when going at a rapid speed through the ocean rode upon a large wave which suddenly lifted the screw above the water. The vessel acted as if it had an epileptic convulsion, yet there was no more energy being expended than there had been while it was pursuing its even course through the water; the sudden and peculiar change was due to misdirected energy, a sudden withdrawal of resistance, and not to an increase of energy expended under normal conditions. Although it might be said that convulsive movements could be initiated by direct irritation of a motor ganglion, either in the spinal cord or in the cortical gray matter, yet movements in the enormously preponderating cases were not thus initiated, but were rather consequent on sensory influences, either excitant or the reverse. One great objection to the theory that a motor discharge was the primary and essential lesion of epilepsy was that it required more than one mechanism to explain the fact. It could not be denied that a sensory or peripheric irritation was by far the most frequent antecedent of an attack, and it was known that a severe sensory impression occurring during a motor action might in an instant turn that previously regulated motion into a virtually powerful unregulated convulsion.

These views regarding the nature of epilepsy were considered as important because of the bearing they had upon the treatment. Whereas he had formerly often felt discouraged with the therapeutics of epilepsy, he was now growing less so. The first indication to be met was to supply nerve nutrition, and the best agent for this purpose was cod-liver oil. He tried this remedy in every case of epilepsy as persistently as in phthisis. It also tended to prevent impoverishment of blood by the bromides. Another tonic was phosphorus. In diet, animal flesh was excluded to a large extent. Carnivorous animals had convulsions oftener than the herbivorous, because flesh as a diet predisposed to convulsions. Rapid eating should be guarded against. Sensory nervous instability should be met, and it was not necessary to dwell upon the value of bromides, as no physician would treat epilepsy without them. If there were indications of persistent cortical irritation, he gave corrosive sublimate, and sometimes rubbed in the oleate of mercury. He used belladonna in every case in which there were symptoms pertaining to the digestive tract. Chloral hydrate was called for at night in some cases. Digitalis was indicated when there were pronounced vascular symptoms, or symptoms referable to the genito-urinary tract.

Dr. L. Putzel thought that the prodromal symptoms of epilepsy, which often existed two or three days before an attack, disproved the theory of the suddenness of the disease. He could not understand why Dr. Thomson regarded the sensory impulse as inhibiting the motor impulse. He thought the sensory impulse generally was a stimulus which set the mechanism of the motor cells going, and that then, from the vital force within them, they discharged their power in motion. Then, he did not think the paralytic attacks in *petit mal* were very frequent. Paralytic attacks in epilepsy occurred, as a rule, after prolonged severe convulsions, and were then probably due to exhaustion. He did not think the convulsions of teething children were epileptic; they were epileptoid, and might after a time become epileptic. At first, however, there was simply the local trouble, which gave rise by reflex action to a general brain discharge, while in true epilepsy there was an unknown abnormal condition in the brain itself.

Dr. W. H. Draper could not say that the author had thrown much light on an obscure subject by his ingenious theory, or that he had seriously shaken existing hypotheses as to the pathology of epilepsy. He believed that it was generally admitted that a large proportion of attacks probably had their origin in the convulsion centers of the cerebral hemisphere, and it was thus easy to account for attacks of temporary aphasia, transient psychical and sensory auras preceding or even occurring without the motor discharge. The question of the determining cause of the phenomena of an epileptic attack, whether it was the result of vaso-motor spasm or not, was still undecided, and the author's hypothesis that it was a withdrawal of the control which the sensory functions of the nervous system exercised over the motor functions did not appear, in spite of the illustration of the epileptic ship, to make the cause clearer. The speaker agreed with Dr. Putzel that it was not correct to regard convulsions of peripheral origin, like those of dentition and gastro-intestinal irritation, as the exact parallel, pathologically, of idiopathic epilepsy, except in so far as both might involve a sensory cause. He cordially concurred in what the author had said about the treatment of epilepsy, and especially of the importance of improving the nutrition of the nervous centers with cod-liver oil and tonic medication. He thought that, next to this, the most important point in the management of the disease was a careful study of the possible peripheral irritations which might provoke the attacks. These were very often found in errors of diet. He could not agree with the author as to the avoidance of animal food by epileptics—on the contrary, he had been inclined to believe that the gastro-intestinal irritations, which were the exciting causes of epileptic seizures, were much more likely to follow the indigestions caused by over-feeding with the carbohydrates and fermented liquors. He preferred a diet of milk and animal food for his patients, and had had excellent success in diminishing the frequency of the seizures by regulating the diet upon this principle. The next important point in the treatment was, of course, the administration of some drug which would diminish the extreme irritability of the convulsive centers. For this purpose, no remedy had yet been discovered which equaled potassium bromide. Yet, despite all these measures, every physician could recall cases in which all forms of treatment had failed to control the disease—cases in which the patients preferred to have their fits rather than suffer the self-denials imposed by dietetic restrictions, and especially the misery of mental and physical hebetude caused by large doses of the bromides.

Dr. Thomson said it was not unusual to see prodromes in epilepsy, but they did not constitute the attack, and when he spoke of suddenness it was with regard to the actual steps in the attack. As to the sensory impulse, he looked upon it as being of a regulative character, allowing the motor impulse to be expended in a particular direction. As to the convulsions of teething children, etc., not being epileptic but only epileptoid, he would like to have the difference between them explained; the phenomena were the same. He knew of no better example of the saying, "a distinction without a difference," than these cases presented; no, not in the whole range of medical speculation.

Dr. Draper remarked that he had meant to convey by the term epileptoid simply the idea of the form of epilepsy, and not the substance or nature of it.

Dr. A. D. Rockwell then read a paper on the value of electricity in the treatment of epilepsy. [See page 431.]

Meeting of March 17, 1887.

The President, Dr. A. Jacobi, in the Chair.

A Portrait of the late Gunning S. Bedford, M. D., presented by the family of the deceased, was accepted with thanks.

On Bacteria in Ice and their Relations to Disease, with Special Reference to the Ice-supply of New York City.—Dr. T. Mitchell Prudden read a paper in which he said that our knowledge of the dangers of impure water had become much more precise since we had learned that many common and fata diseases were caused by the bacteria which such water might contain. Chemical examination could determine the presence of bacteria only inferentially. In the new method of research it was no longer necessary to infer their presence, but it should not be inferred that the biological had superseded the chemical method of water analysis. The biological method was very simple in principle, but it required for its execution considerable patience, care, and experience. The material had to be sterilized, which was usually done by prolonged heating. The food prepared for the bacteria in water analysis was usually beef-tea, nutrient gelatin. When a water analysis was to be made, the nutrient gelatin in one of the tubes was melted and thoroughly mixed by shaking with a measured quantity of the water to be examined. The quantity of water usually employed was 1 c. c. The mixture was poured out on a sterilized glass plate. This was put into a clean glass saucer, covered from the dust, and set in a moderately warm place. The bacteria now began to grow and formed colonies. The number of colonies indicated the number of bacteria originally in the water. The kind of bacteria could now be studied by the cultivation process, etc. A series of thirty-two analyses of the Croton water as it was delivered through one of the faucets at the College of Physicians and Surgeons on different days during the past five months showed the lowest number of living bacteria to 1 c. c. to be 57, the highest 1,950, while the average was 243. But a large proportion of the bacteria which were everywhere so common were, so far as we yet knew, perfectly harmless. It was true, however, that a certain number of species which could live in water as well as elsewhere could and did produce deadly diseases, in the form of some of the most frightful epidemics. If there was a possibility of sewage contamination, and large numbers of bacteria that were not water bacteria were present, we might justly infer that the natural processes of water purification had not been active or efficacious, but that the conditions had been favorable for the prolonged existence of the sewage bacteria, including disease-producing forms. A great variety in the species of bacteria present in a water was rather indicative of sewage contamination.

Taking all things into consideration, we might say in a general way, for the sake of having some sort of temporary standard, that water containing more than from 50 to 100 living bacteria to 1 c. c. should not be used for drinking purposes without filtration or other mode of purification. If water was known to be either immediately or remotely polluted with sewage, or human or animal excreta, it should under no circumstances be used for drinking purposes without filtration or other form of efficient purification, whatever the number of bacteria it might contain. The same facts applied equally to ice. The examination of ice was conducted in the same way as that of water, but it was first thoroughly cleansed and then melted. It was a popular belief that water purified itself in freezing. This belief was based partly upon fact, but the clearest ice might contain numerous bacteria capable of causing disease. In order to obtain some positive data about the action of low temperatures on bacteria, the author had carried out a series of experiments on the effects of cold on pure cultivations of six different species of bacteria when these were suspended in water. The method was to put into the different sets of tubes appropriated to each bacterial species a little pure distilled water which contained a known number of bacteria to the c. c. These different sets of tubes were then frozen in a refrigerator, the temperature of which was kept from 14° to 30° F. for over three months. The tubes were removed from time to time, and the number of bacteria remaining alive was determined in the usual way. The species used for experimentation were: 1. *Bacillus prodigiosus.* 2. *Proteus vulgaris* [Hauser]. 3. A slender fluidifying bacillus common in Croton water. 4. The *Staphylococcus pyogenes aureus.* 5. A non-fluidifying fluorescent bacillus common in water and ice. 6. The bacillus of typhoid fever. In the summary of the results of the experiments on the bacillus of typhoid fever it was seen that, while many of the individuals were destroyed, many still remained alive even after prolonged freezing. A large reduction in the number of viable individuals of the different bacteria took place at the first freezing, while a more gradual destruction went on as the low temperature was maintained. The typhoid bacteria were soon destroyed after alternate thawing and freezing; also the *Staphylococcus pyogenes aureus* and the *Bacillus prodigiosus.*

The author then described the three great sources of ice-supply of New York city. The chief source was the Hudson River; the surrounding lakes gave a limited amount; the third source was Maine, which was drawn largely upon during seasons when the home supply was poor. Unless soil filtration purified the sewage of a small town near Rockland Lake, from which considerable ice was drawn, its waters must be polluted thereby. Two thirds of all the Hudson River ice was cut within thirty miles of Albany, and nearly one fourth within twelve miles. The sewage of the large cities of Troy and Albany entered the Hudson, but nothing had been more definitely established than that impure water could and did free itself under favorable conditions, such as exposure to air in running streams, etc., from a good deal of its organic impurity. But that the same conditions destroyed the bacteria, which were, after all, so far as we knew, the more important active agents in the diseases produced by bad water, had not yet been demonstrated in a sufficiently comprehensive way. He had made nearly three hundred complete analyses of ice taken at different times from the Hudson River, and from the ponds and lakes. Taking the results of all these analyses, he had found that the average number of living bacteria to 1 c. c. was 2,033. Thus, he who, impressed with the importance of pure drinking water, should perfectly filter half a glass of the average winter Croton water and then add to it an equal quantity of the average ice, would have the satisfaction of replacing the bacteria removed by filtration with more than eight times as many, or two hundred thousand, from much more questionable sources. But such general statements were misleading. In his series of analyses the ice had been grouped into two classes: 1. Clear ice, or that which contained but few scattered bubbles. 2. Snow ice and very bubbly streaks. A distinction had also been made between the ice gathered near Albany and that taken some distance below. It was evident from the charts that by natural agencies the water of the river was freed to a certain degree from the bacteria after running for some distance. But the ice did not, as one might at first expect, get freer and freer from bacteria as the distance from Albany increased, but from six to fifty miles below Albany, with local fluctuations of not much importance, it remained very nearly the same.

The remarkable difference in the bacterial contents between the snow ice with the bubbly streaks and the clear ice prevailed in all parts of the river alike, and it was surprising to notice not only its constancy, but also the abrupt transition in the number of bacteria as we passed from one form of ice to another in the same block. There might be 46 bacteria in 1 c. c. in the transparent ice while less than an inch away in the same block the snow ice contained over 10,000; or 32 in the clear and 520 in the snow; 2 in the clear and 1,308 in the snow, etc. He had found on an average that the snow ice contained about seventeen times as many bacteria as the clear ice. The very bubbly streaks contained, as a rule, many more bacteria than the adjacent clear ice, but still not so many as the snow ice.

A comparison of the analyses of the lake and pond ice with Hudson River ice showed that the average number of bacteria in 1 c. c. of transparent ice from the lakes and ponds, free as they were from obvious sources of sewage pollution, was still almost as great as the average in transparent ice from all parts of the river; while, if Albany ice was excluded, the river ice appeared to have a decided advantage.

The number of different species of bacteria in the Hudson River ice was much greater than that from the lakes and ponds. This was to be expected on account of the great sewage pollution of the river. It was a little curious that in the same block of ice different strata often showed a marked difference in the species of bacteria which preponderated. While the conditions in the upper Hudson did not seem during the ice-forming season to be such as would favor purification from organic matter by oxidation, they did seem to be theoretically, and were shown to be practically, favorable to a considerable degree of spontaneous purification from bacteria by sedimentation. But the limits and extent of this purification were yet to be made out.

The measures which might be adopted for the prevention of the conveyance of disease through ice were, under the present condition of affairs, of two kinds: 1. Such as would come under the supervision of health officers. 2. Those which belonged in the province of the individual consumers. In the first place, it would seem necessary that the State Board of Health, or some other authorized body, should be placed in charge of the ice-harvesting fields, and, by a system of inspection not less strict than that which should exist in the case of the ordinary water-supply, determine which, if any, of the sources of ice-supply were so situated as to imperil the health of the consumers of ice. In view of what we had seen, this would appear to be comparatively simple in all cases except that of the Hudson River. Here it would be necessary to establish by a most thorough scientific examination the distances from all sources of sewage pollution at which it might be safely assumed that the water had freed itself from bacterial and other impurities sufficiently to form safe ice. A compulsory system of disinfection of excreta in infectious diseases might be instituted.

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NEW YORK CLINICAL SOCIETY.

Meeting of January 25, 1887.

The President, Dr. A. A. Smith, in the Chair;
Dr. B. Farquhar Curtis, Secretary.

Some Unsolved Clinical Problems was the title of a paper read by Dr. W. H. Flint. [See page 506.]

Dr. Robert Abbe thought that the absence of fever and the short duration of the attack in the third case indicated spasm of the cerebral vessels rather than paresis. He had seen a similar case recently. The patient was a military man of advanced life, but healthy, who had never before had a similar attack. One morning he found that he could not shave himself, and needed more help in dressing than usual. He found also that he could not talk fluently, and, although he went to breakfast as usual, he grew excited. The speaker could find nothing abnormal on examination, except amnesic aphasia and great mental distress and excitement. The patient was put into bed, and aconite, blisters to the neck, potassium bromide, and one drop of croton-oil were ordered. The last caused four purgative movements during the day. During the day the patient suffered from cramps of the right side of the body, especially in the leg, and uttered a succession of oaths, although that was altogether contrary to his habits. A little albumin, but with no casts, was found in the urine. The next day he was pretty well, but had some weakness or very slight paralysis of the right side. Several consulting physicians made various diagnoses—uræmic angeiospasm, embolism, and arterial thrombosis. It was now (at the time of the meeting) one month after the attack, and the patient was intelligent, tried to talk, and had gained somewhat in ability to do this. Very slight paralysis still persisted.

The President thought the term "vaso-motor disturbance" was very vague, and he always used it with a consciousness that he was reserving it for cases of which he knew little or nothing. In regard to the unilateral dilatation of the pupil, he would like to ask Dr. D. Webster (present by invitation) how to explain this symptom, so frequently seen in nicotine poisoning.

Dr. Webster replied that he had never seen dilatation of one pupil, or even of both, in nicotine poisoning. With amblyopia the pupils might not react to light, and this might cause dilatation of one pupil if the amblyopia was limited to that side.

Dr. O. H. Emerson remarked that a man who was habitually placed at his work with a bright light on one side had often a constant dilatation of the pupil on the side away from the light as compared with the other, persisting even when the eyes were not so exposed.

Leucæmia without Pallor.—Dr. Abbe wished to ask if any members of the society had observed absence of pallor in leucæmia. He had recently seen a case in which the number of leucocytes in the blood had very much increased and the spleen was enlarged, but the patient, a man, was not at all anæmic in appearance. There had been no hæmorrhage of any account.

Dr. W. H. Katzenbach had seen a lady with a very large spleen, who was not anæmic and seemed very healthy, but he had not examined the blood.

The President had seen a lady with a very large spleen, in good health, the organ having been supposed to have begun to grow after she had received a blow upon the abdomen. He thought that the spleen had been enlarged before this accident—it was thirteen inches long. There was no pallor, although the number of white blood-corpuscles had very much increased.

The President related the history of a case of abscess of the liver. At the patient's request, it was omitted from the minutes.

Meeting of March 25, 1887.

The President, Dr. Robert Abbe, in the Chair.

Hereditary Syphilis; Periostitis of the Right Humerus, Ulna, and Tibia, and of the Left Radius and Ulna, and Syphilitic Testicle in a Boy of Five Years.—Dr. L. E. Holt presented a child, five years of age, with the following history: His father's history was unknown; his mother had shown no signs of syphilis until within the past three months, during which time she had suffered from headaches, and had lost her hair. She showed no nodes, cicatrices, or glandular enlargement. Her first child, fourteen years old, was in good health. The second, third, fourth, and fifth pregnancies ended in miscarriages; in her sixth a child was born, which lived eight days and died of umbilical hæmorrhage. Another miscarriage followed, and then the patient was born. After this there were two pregnancies. One resulted in the birth of a child now living, three years old, who, though apparently healthy, showed enlarged epitrochlear, inguinal, and post-cervical glands, and had suffered in infancy from snuffles. The last child cut two teeth at the age of four months, had suppurating glands in the neck, was always delicate, and died at the age of nine months. The mother had been told, after an autopsy, that all the internal glands were found diseased. The patient cut his first teeth at the age of nine months, and walked at that of eighteen months. When three months old he had suppurating cervical glands, the cicatrices of which were now present. He had always had snuffles, but there was no history of infantile eruptions. A year ago he had sore eyes, and about the same time swellings in both ankles and both wrists, lasting about five months. The enlargement of the right testicle was first noticed at that time. The left forearm was broken about a year ago, and had never been normal in size since. The swelling about the left elbow was of six months' standing, and that of the left tibia dated back about six weeks. For a long time he had suffered much at night, often screaming out as many as fifteen or twenty times in the course of a single night. He had gone the rounds of the different dispensaries and clinics of the city, but had not seemed to have any continuous treatment anywhere. On March 5th his condition was as follows: Teeth much decayed, posterior cervical glands enlarged, epitrochlear glands of the size of beans, two felt on the left side. There was a swelling of the external condyle of the right humerus, also of the upper fourth of the ulna on the same side. The right elbow measured half an inch more in circumference than the left. There was a cylindrical swelling of the right tibia throughout its middle two fourths. The bones of the left forearm were uniformly enlarged from wrist to elbow, and that forearm measured seven inches in circumference, the other one measuring five inches only. The evidence of an old fracture existed about the middle of the bones, and over this point there was a soft, semifluctuating swelling of about the size of half a hen's egg. Tenderness existed over all these bony swellings, and they all seemed to be of the nature of periostitis, with some superficial osteitis. The axillary and inguinal glands were enlarged. The right testicle was as large as a horse-chestnut; it was smooth and very hard, was not tender, and had never been painful. The spleen was enlarged so that it could easily be felt below the ribs. The liver was normal. There was a chronic rhinitis with moderate discharge. The general condition was poor without being very cachectic. The boy was given iodide of potassium in doses which had been gradually increased until he had now been taking forty-five grains daily for a week. Marked improvement was noticed within ten days, and during the three weeks that he had been taking the drug the periosteal swellings had been reduced fully one half, the nocturnal pains were entirely gone, and he was improving rapidly in his general condition. The special points of interest in the case were, the mildness of the secondary symptoms, the severity of the tertiary ones and their distribution, and, most of all, the syphilitic testicle, which, in the author's experience, was exceedingly rare in children.

Dr. Katzenbach had never seen an enlarged testicle as the result of hereditary syphilis, but he always considered enlargement of the epitrochlear glands as evidence of syphilis.

Dr. J. W. Wright considered enlargement of the testicle as exceedingly rare in hereditary syphilis, and could not recall a single instance in his experience. Regarding enlargement of the epitrochlear glands, he thought that, when it was associated with other symptoms, it was strong evidence of syphilis.

Dr. Jackson would not lay much stress upon enlargement of the epitrochlear glands alone.

Dr. Bangs also thought enlargement of the testicle in children exceedingly rare. Enlargement of the epitrochlear glands he regarded as a strong presumptive argument in favor of syphilis. He would not, however, make a diagnosis from it alone.

Dr. Abbe remarked that he had seen a counterpart of the case presented. It was in a boy with supposed sarcoma of the testicle. He had numerous bone lesions, which also were thought to be sarcomatous, and he was apparently cured with iodide of potassium in large doses. The resemblance to sarcoma was considerable, but the affection was double, and there were the bone lesions. He had felt the epitrochlear glands enlarged in non-syphilitic cases, and would, therefore, lay very little stress upon them.

Dr. Bangs thought that most patients who presented a chancroid with suppurating inguinal glands, and subsequent enlargement of the epitrochlear glands, turned out to be syphilitic.

Dr. Abbe could not understand why the syphilitic poison, which was slow and continuous in its progress, should attack by preference the epitrochlear glands, which were so far removed from the site of infection.

Dr. Holt had invariably found enlargement of the epitrochlear glands in syphilitic children, but he had found it in other dyscrasiæ also, such as scrofula.

Neuralgia of the Ulnar Nerve, following a Fracture of the Olecranon; Operation.—Dr. Wright related the history of the following case: H. J., aged seventeen, was struck in May, 1886, on the point of the left elbow by a brick thrown with considerable force. The joint was greatly swollen and painful, and was treated with liniments. Two weeks later he fell on the sidewalk and struck heavily on the same point. He was on this occasion also treated with liniments and evaporating lotions. During the first week in January, 1887, he came under the speaker's notice. At that time the elbow joint was nearly useless, except with regard to pronation and supination. The muscles of the forearm were atrophied and the hand was œdematous. There was constant pain along the ulnar side of the forearm, and there were pain and tingling in the third and fourth fingers of the hand. The olecranon process was separated from the shaft of the ulna for a distance of an inch, the interval being filled with fibrous tissue. On January 10th, under bichloride irrigation, the fracture was exposed by a long, straight incision, the fibrous bond of union between the fragments was removed, thereby opening the cavity of the joint, and the adjacent bony surfaces were freshened with a bone forceps. It was then found that a splinter of bone, an inch long by an eighth of an inch wide, had been detached from the head of the ulna and was pressing upon the ulnar nerve. This was carefully dissected out and removed. The bones were then drilled and wired together with two strands of No. 26 silver wire. The wound was closed and drained and dressed antiseptically. The highest temperature (101°) occurred on the day following the operation. On January 17th the wound was dressed. Union had occurred by first intention. There was no pus in the tube, which was now removed, and the wound was redressed. In a few days the joint was put up in a plaster splint, which was worn three weeks, when passive motion was begun. There had been no pain nor tingling in either the forearm or the fingers since the operation. The forearm could now be flexed to a right angle, and was rapidly improving in this respect. Pronation and supination were perfect, and there was close bony union of the olecranon with the shaft of the ulna.

(To be concluded.)

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(Continued from page 247.)

What Cases of Nasal Catarrh require Surgical Treatment?—Dr. C. C. Rice having read a paper on this subject (see page 510), the following discussion took place:

Dr. Bosworth: I have heard two papers by Dr. Rice lately—one read before a society in New York, and this one. In reference to the first I have nothing to say; I agree with him thoroughly. With regard to the paper of to-day I wish to make some remarks. I consider the term "erectile tissue of the nose" as an unfortunate one. There is no evidence whatever to warrant the view that there is anything in the mucous membrane covering the turbinated bones at all analogous to erectile tissue in other parts of the body. The author said that the physiological action of the erectile tissue of the nose was to swell up and exclude air from the nose. It does not have this function at all. It is merely a mass of blood-vessels, and physiologically does not swell up at all. It would be very strange, indeed, if it should be the function of the mucous membrane to prevent the entrance of air, and thus to compel it to enter through the mouth. Again, he said that, in regard to abnormities in the nasal chambers, all patients presented abnormities. In other words, there is no such thing as a normal standard. This is the view also of Morell Mackenzie, who declares that there are so many variations that there is no normal type. I do not admit this; I regard it as a mistake to say that there is no such thing as a healthy nose. In my dispensary and private work I see cases frequently with which I can find no fault whatever. The author also said that we need not remove hypertrophied tissue if the patient could breathe freely through the nose; for this he takes the patient's statement. I must say that here he is in error, as the patient's statement can not be relied upon. An obstruction may exist and not be recognized by the patient. He may say that he can breathe freely; but, after hypertrophy has been removed, he realizes that he never has breathed freely before the operation, and will tell you so. Patients can not decide whether they have catarrh or not. If they have been in a morbid condition for fifteen or twenty years, they are not able to say positively what it is to be well.

Dr. F. I. Knight: I have thought of the protective function of the turbinated bodies, to which my attention was drawn by the following case: A gentleman, a dentist by profession, found that his work was much interfered with by difficulty of breathing through his nose. I removed very large hypertrophies from the posterior ends of the turbinated bones, and the patient expressed the greatest gratification at the result; he could continue his work without continually stopping to walk around the room to get his breath. He subsequently sent several patients to me for the same operation. At the end of a year I met him, and he said that he believed that he was getting too much air; he had irritation in his naso-pharynx, and laryngeal catarrh. He said that he feared that I had given him too much ventilation. This was an instructive case, and I think that the patient may have been right. There is another interesting point, to which Dr. Delavan called attention some years ago: Where there is a deviation of the septum, making a large space upon one side, the turbinated body of that side comes out to partially fill up this space. There is probably some good reason for this, as explained by Dr. Delavan. For my own part, I rarely look into a nose without finding something abnormal.

Dr. Shurly: Some three or four years ago I read a paper before this association, calling attention to the fact that there might be too much space for the passage of air through the nasal chambers, especially as a result of too decided surgical interference, thereby giving cause for a more or less permanent atrophic nasal catarrh.

Dr. Mackenzie: The turbinated nasal corpora cavernosa are something more than mere plexuses of veins, for both inspection and histological examination show them to be formed of a tissue which in all essential respects may be regarded as the anatomical analogue of the cavernous structure of an erectile organ. Without entering upon the discussion of their uses, which are undoubtedly manifold, they unquestionably possess the faculty of sudden engorgement or erection, and I believe that this sudden reflex turgescence serves, among other things, the purpose of guarding the air-passages against the entrance of foreign particles of matter, noxious exhalations, etc. In this connection I would refer to some experiments made long ago in France. Horses were driven through clouds of dust and killed immediately afterward, when it was found that not a particle of dust had passed beyond the nasal fossæ. Now, it seems to me that this is best explained by the erection of the turbinated tissues. The nasal erectile, or, if you prefer it, contractile, bodies also occasionally become erect and engorged at a physiological epoch, such as the menstrual. If you ask, with Dr. Bosworth, What is the use of such engorgement? I answer, I do not know. Possibly the dilated cells may serve as collateral channels for the surcharged cerebral circulation, thereby bringing about relief of the headache and other congestive disorders incident to the menstrual period. The thyreoid gland, as we all know, enlarges in some women at that epoch; why, is not sufficiently apparent; but because we have no adequate explanation to offer, it obviously does not warrant us in denying the existence of a physiological fact.

Dr. Bosworth: If I might be allowed to explain, I should like to say that I did not assert that these bodies never swelled, but I stated that they never swelled as a physiological function. Dr. Mackenzie is referring to a pathological fact. I can not understand how man should have been created with such a clumsy contrivance as this device for shutting off the air from the nasal chambers and making it go through a much more vulnerable passage.

Dr. Allen: The existence of erectile tissue in the nose may be explained by the very short passage for the air. There is no question that the nasal chambers in man are exceedingly degenerate. In the first place, they are disproportionately small. The proper development of them is only to be found in long-faced animals, such as the horse. In man the brain cavity has gradually encroached upon the bones of the face, so that the nasal passages are very much shortened. It is a rule that structures in process of degeneration are always excessively variable, and paleontologists are agreed that as an organ approaches extinction it shows the greatest variety of forms; so that the great number of abnormities in the nose of civilized races of men, and its liability to disease, are the natural result of its degenerate condition. There is one point to be especially observed. It is that animals with short noses have these erectile bodies in their nasal chambers. In a section of a cat's skull this is well shown; it is also seen in rabbits. It is also supposed to have some protective function. Now, in saying this, I do not say that we can allege the same function for the erectile tissue here as for that which exists elsewhere in the body; but we can state that its function is protective and obstructive; and, as a result of its presence, these bodies will swell up at times and become prominent.

(*To be concluded.*)

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Anatomy: Descriptive and Topographical, in 625 Illustrations. By Carl Heitzmann, M. D. English Edition by Louis Heitzmann, M. D. Bones, Articulations, Ligaments.—Muscles, Fasciæ, Topography.—Organs of Sense.—Viscera, Topography.—Nervous System.—Vascular System, Topography. New York: J. H. Vail & Co., 1887. Pp. xxii-3 to 144, 147 to 238, 3 to 270, 36.

Natural law in the Business World. By Henry Wood. Boston: Lee & Shepard. New York: Charles T. Dillingham, 1887. Pp. 13 to 222.

A Clinic on Heart Disease. By Stephen Smith Burt, M. D., Professor of Physical Diagnosis, New York Post-graduate Medical School and Hospital. [Reprinted from the "Medical and Surgical Reporter."]

Seventy-third Annual Report of the Trustees of the Massachusetts General Hospital and McLean Asylum, 1886.

The Negligence and Result of Vaccination. By B. Merrill Ricketts, M. D., Ironton, O.

Transplantation of a Rabbit's Eye into the Human Orbit. By Charles H. May, M. D., Instructor in Ophthalmology, New York Polyclinic. [Reprinted from the "Archives of Ophthalmology."]

Practical Examples in Prescription-Writing. By Charles H. May, M. D. Issued for the Use of his Quiz Classes.

Epithelioma: its Ætiology, Diagnosis, and Treatment. A Paper read before the Ohio State Medical Association, held at Akron, Ohio. By B. M. Ricketts, M. D., Former House Surgeon, N. Y. Skin and Cancer Hospital.

The Relation of Red Corpuscles to the Brain. By B. Merrill Ricketts, M. D.

Annual Address delivered before the American Academy of Medicine at Pittsburgh, Pa., October 12, 1886. By R. S. Sutton, A. M., M. D., President of the Academy.

Report of the New York Hospital Saturday and Sunday Collection of 1886. Eighth Annual Report.

Athothis. A Satire on Modern Medicine. By Thomas C. Minor. Cincinnati: Robert Clarke & Co., 1887. Pp. viii–5 to 194.

L'enseignement actuel de l'hygiène dans les facultés de médecine en Europe. Par le Dr. W. Loewenthal, Professeur agrégé à l'Académie de Lausanne. Paris: H. La Soudier, 1887. Pp. 126.

Remarks on Cataract Extraction. By Swan M. Burnett, M. D., Professor of Ophthalmology and Otology in the University of Georgetown, etc. [Reprinted from the "Journal of the American Medical Association."]

Twenty-sixth Annual Report of the Cincinnati Hospital to the Mayor of Cincinnati for the Fiscal Year ending December 31, 1886.

A Case of Intra-ligamentous Ovarian Cyst; General Peritonitis; Universal Adhesions; Ovariotomy; Recovery. By L. S. McMurtry, A. M., M. D., of Danville, Ky. A Paper read before the Central Kentucky Medical Association. [Reprinted from the "Journal of the American Medical Association."]

Baked Beans: a Serio-humorous Medical Paper. By Ephraim Cutter, A. M., M. D., etc. [Reprinted from the "Albany Medical Annals."]

Tracts on Massage. No. III. The Uses of Massage in Medical Practice. Translated from the German of Reibmayn, with Notes, by Benjamin Lee, A. M., M. D., Ph. D., Secretary of the State Board of Health of Pennsylvania, etc.

Persistent Pain after Abdominal Section. By James B. Hunter, M. D., Surgeon to the Woman's Hospital, New York, etc. [Reprinted from vol. xi, "Gynecological Transactions."]

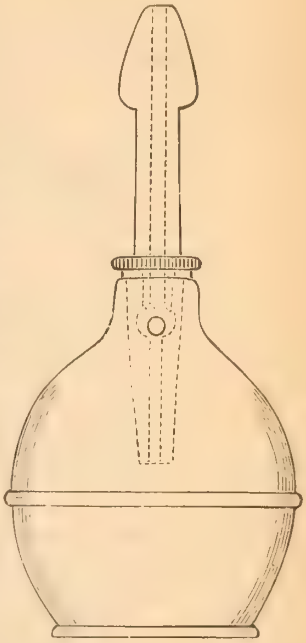
Operations for Phimosis as a Means of Cure or Relief of some Nervous and Other Symptoms. By G. L. Magruder, M. D., of Washington, D. C. Read before the Washington Obstetrical and Gynæcological Society, June 15, 1883. [Reprinted from the "Journal of the American Medical Association."]

New Inventions, etc.

A SIMPLE AND EFFICIENT INSUFFLATOR.*

By D. H. Goodwillie, M. D.

In a paper read before the Medical Society of the State of New York in February, 1882, on the "Application by Insufflation of Medicated Powders to the Upper Air Passages for the Relief of Catarrhal Conditions," and published in the "Transactions" of the society, and also in the "Archives of Medicine" for April, 1882, I gave some formulas for the powders and indications for their use. Since that time they have been favorably made use of, and there appears to be a growing demand for them. In order that they may be more generally used by the practitioners who see the need of ready means of treatment at the beginning of these troubles, I have devised a simple and efficient insufflator, as seen in the accompanying cut. It consists of a soft rubber bulb flattened at one end, upon which it stands when not in use. The other end contains the stem, the upper end of which is made as so to fit the vestibule of the nostril. The lower end of this passes to the center of the bulb. A ball-valve is contained within this, and answers two purposes, viz.: (1) To prevent the powder coming out in a mass. When the bulb is pressed upon, the ball-valve is raised to the top of the recess, and rests against many projecting points. The powder, striking the ball-valve, passes round it, and has its exit through the many openings at the top of the recess. (2) When the bulb is at rest and stands on its flat end, the valve closes the opening to the powder, and prevents the entrance of air or moisture.



To use the insufflator, place the nasal end well into the nostril, press the bulb between the thumb and fingers, and at the same time inhale through the nose. A forced inspiration will make an application to the nose, pharynx, and larynx. Insufflation to the pharynx and larynx can be made through the mouth if desired.

The insufflator holds, when in good working order, half an ounce of powder, which will last a long time. To refill the insufflator, unscrew the stem at the top of the bulb, take out the ball-valve, compress the bulb well; then place the open end in the powder, let the bulb regain its shape, and the powder will be drawn into the bulb; repeat until the half ounce of powder is drawn in. The following are a few of the powders in general use:

No. I. Benzoin and cocaine.

The old formula has been improved by the addition of one per cent. of cocaine.

No. II. Iodoform and camphor.

No. III. Alum and acacia.

No. IV. Belladonna and aconite.

These therapeutical agents are triturated to a dust with subnitrate of bismuth and nitrate of potassium. Very much depends on their preparation.

These powders and others have been prepared and sold with the insufflators by Fraser & Co., 208 Fifth Avenue, New York, who have a well-earned reputation for medical triturations.

Miscellany.

The New York Academy of Medicine.—At the next meeting of the Section in Surgery, Monday evening, the 9th inst., Dr. J. A. Andrews will read a paper "On the Exostoses of the Orbit and the Neighboring Cavities," and Dr. F. Abbott will read a paper "On Implantation of the Teeth."

At the meeting of the Section in Neurology, Friday evening, the 13th inst., Dr. Allan McLane Hamilton will describe "A Case of Lipomatosis Neurotica," and Dr. Frank Ferguson will describe "An Obscure Case of Syphilis with a Peculiar Lesion of the Brain."

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* Exhibited at the New York Academy of Medicine, Section in Laryngology and Rhinology.

At the meeting of the Section in Ophthalmology and Otology, Monday evening, the 16th inst., Dr. D. H. Goodwillie will describe "Two Cases of Abscess with Necrosis of the Frontal Sinus, treated by Means of the Electric Revolving Knife," and Dr. F. E. D'Oench will read a "Report on 500 Successive Cases of Enucleation of the Eye, compiled from the Case-books of the New York Ophthalmic and Aural Institute."

At the meeting of the Section in Theory and Practice of Medicine, Tuesday evening, the 17th inst., Dr. T. H. Burchard will read a paper on "The Therapeutic Effects of the Saratoga Waters," and Dr. G. B. Fowler will read on "The Significance and Detection of Sugar in the Urine."

The Treatment of Consumption with Gaseous Enemata.—The editor of the "Polyclinic" (Dr. Henry Leffmann, P. O. box 791, Philadelphia) requests those who have made use of the method to communicate the result to him, giving the formula used and adding any special information that may be useful—for publication in the "Polyclinic."

The Stomach-Pump Treatment of Gastric Catarrh.—Dr. J. J. McKone, of the Garfield Hospital, Washington, sends us a brief account of a case illustrating the value of this method of treatment. The patient, a woman, thirty years old, had had her trouble for a long time, and had been treated with various remedies without relief being afforded. A siphon was then used, and afterward the stomach-pump, half a gallon of warm water being employed daily, with almost immediate relief.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending April 28th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending April 9th corresponded to an annual rate of 20·5 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Portsmouth, viz., 17, and the highest in Manchester, viz., 32·6 in a thousand. Two deaths from small-pox were registered in Cardiff, and 1 in Blackburn.

London.—One thousand four hundred and thirty-seven deaths were registered during the week ending April 9th, including 62 from measles, 6 from scarlet fever, 15 from diphtheria, 35 from whooping-cough, 4 from enteric fever, 2 from cholera and choleraic diarrhœa, and 9 from diarrhœa and dysentery. There were 363 deaths from diseases of the respiratory organs. Different forms of violence caused 52 deaths. The deaths from all causes corresponded to an annual rate of 17·8 in a thousand. In greater London, 1,861 deaths were registered, corresponding to an annual rate of 17·9 in a thousand of the population. In the outer ring, 32 deaths from measles and 4 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending April 9th, in the sixteen principal town districts of Ireland, was 26·8 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 9·6, and the highest in Kilkenny, viz., 76·1 in a thousand.

Dublin.—Two hundred and three deaths were registered during the week ending April 9th, including 5 from measles, 2 from scarlet fever, 1 from typhus fever, 1 from whooping-cough, 1 from enteric fever, and 1 from cerebro-spinal fever. Diseases of the respiratory organs caused 49 deaths. In twenty-five instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 30 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending April 9th was 22·9 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 14·6, and the highest in Aberdeen, viz., 32·4 in a thousand. The aggregate number of deaths registered from all causes was 524, including 1 from small-pox, 6 from measles, 2 from scarlet fever, 3 from diphtheria, 11 from whooping-cough, and 12 from diarrhœa.

Netherlands.—The deaths registered in twelve cities of the Netherlands, having an aggregate estimated population of 1,101,000, during the month of February, 1887, corresponded to an annual rate of 24·9 in a thousand. The lowest was recorded in Hertogenbosch, viz., 20, and the highest in Dordrecht, viz., 33·9.

Montevideo.—Four hundred and forty-nine deaths were registered during the month of January, 1887, including 82 from cholera, 3 from measles, 1 from small-pox, 2 from scarlet fever, and 13 from enteric fever.

Gibraltar.—Seventy-two cases of measles and 7 deaths from that disease were registered during the week ending April 3d.

Greece.—The Greek Government has issued an order subjecting all vessels from Sicily to a quarantine of eleven days.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM— Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Calcutta	March 12.	433,219	209	36	....	....	....	....	....	....
Guayaquil	March 24.	35,000	66	..	18	5	....	16	....	....
Guayaquil	March 31.	35,000	70	..	19	4	....	24	....	....
Warsaw	April 2.	431,572	199	..	....	12	....	....	....	....
Rome	February 26.	364,511	197	..	....	4	....	1	....	....
Trieste	March 26.	148,157	78	.	....	2	....	....	1	3
Paris	April 9.	2,260,045	1,237	..	....	15	....	44	6	38
Reims	April 9.	98,083	55	..	....	....	....	....	1	1
Munich	April 2.	269,000	129	..	....	....	....	1	2	3
Havre	April 9.	112,074	46	..	....	....	....	1	....	....
Palermo	April 9.	250,000	114	..	....	....	....	2	9	8
Leghorn	April 10.	101,172	56	..	....	....	....	....	1	....
Stuttgart	April 9.	125,510	37	..	....	....	1	....	....	....
Bremen	April 2.	119,000	54	..	....	....	....	1	....	1
Leipsic	April 9.	170,000	88	..	....	....	....	....	1	9
Barmen	April 2.	108,000	62	..	....	....	....	....	....	2
Mayence	March 26.	65,701	34	..	....	....	1	....	....	....
Glasgow	April 9.	545,678	253	..	....	....	....	....	3	4
Bristol	April 9.	223,695	97	..	....	....	....	....	7	....
Edinburgh	March 26.	258,629	122	..	....	....	....	....	12	....
Leith	March 26.	72,297	15	..	....	....	....	....	1	....
Toronto	April 16.	120,000	24	..	....	....	....	....	....	1
Maracaibo	April 2.	40,000	22	..	....	....	....	1	....	....

UNITED STATES.

Yuma, Ariz.—The United States sanitary inspector at Yuma, in his report for the week ending April 16, 1887, states that the Yumas and other tribes of Indians in that vicinity have been thoroughly vaccinated, and are well protected against small-pox. For the past two months they have been suffering from a severe epidemic of measles; 180 cases and 60 deaths have been reported up to April 16th. They have no physician, and their vicious habits of destroying their property for the benefit of their dead left them early in a destitute condition, without food, clothing, or houses; and the great percentage of mortality may be accounted for by complications arising from exposure and want of proper food.

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin," for March, the whole number of deaths reported during the month was 7,830, 32·5 per cent. of which were those of children under five years of age. In each thousand deaths there were 211·11 from zymotic diseases, including 79·83 from diarrhœal diseases, 9·20 from typhoid fever, and 63·50 from croup and diphtheria. The mortality from pulmonary consumption (84·80 in each thousand deaths) was the lowest ever recorded in the "Bulletin," but that from all zymotic diseases, except measles, was increased over that for the preceding month. There were 12 deaths from small-pox in the Maritime District.

The Health of Boston.—During the week ending Saturday, April 30th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 31 cases and 4 deaths; scarlet fever, 23 cases and 2 deaths; typhoid fever, 14 cases and 9 deaths; measles, 73 cases and 2 deaths. There were also 26 deaths from consumption, 24 from pneumonia, 1 from whooping-cough, 12 from heart disease, 8 from bronchitis, and 9 from marasmus. The total number of deaths was 191, against 156 in the corresponding week last year.

Longevity in Vermont.—Of the twenty-five deaths reported by the health officer of Burlington during the month of February, three are ascribed to old age.

Original Communications.

ON THE DIAGNOSIS OF HYPERTROPHIED PROSTATE, AND THE TREATMENT OF ITS EFFECTS.*

By L. BOLTON BANGS, M. D.,
SURGEON TO ST. LUKE'S AND CHARITY HOSPITALS.

NOTWITHSTANDING all that has been taught and written upon this subject, cases are constantly coming to notice in which the diagnosis has not been made or in which the treatment has been either inefficient or bad. It has seemed to me that we might study some of these cases together and possibly derive some profit from the errors as well as from the experiences of others. I therefore beg that you will regard this paper as suggesting to you a topic for discussion rather than an argument—I in my turn hoping to evoke from you that which will enlighten and broaden the scope of my own practice.

The diagnosis of the condition known as hypertrophy of the prostate gland is not always so simple nor so easy as it may appear to be, and perhaps some of the difficulties may be found in the patients themselves. The mental condition of many of the subjects of this affection is such that they are often suspicious of the doctor's inquiries, and readily withhold the essential facts or refuse to allow the necessary examinations. Many of them are men who, having "sowed their wild oats" and attained positions of eminence and responsibility in the community, resent any and all inquiries which will remind them of the "sowing"; and others, equally successful and proud of their station in life, but who have never been immoral, are equally resentful because they fancy that the questioner implies that their malady is the result of a bygone vicious or dissolute life. Even if the preliminary questions have been answered and the diagnosis made, these imperious, successful men, these men of affairs, who have been so long in the habit of directing others, yield a reluctant obedience to a medical adviser and are refractory to his measures—till experience has taught them their value. It often requires great tact and personal adaptation to secure the confidence of these gentlemen, especially if the unfortunate family practitioner, as is often the case (fortunately for the surgeon), has not already borne the brunt of the attack. But the unsuccessful "poor devil," whose lot in life has been less fortunate and whose sole accumulations are represented by the aggregate of his prostate, is much more likely to be tractable and confiding. A few years ago I was hurriedly summoned to a gentleman from out of town, a wealthy western manufacturer, who was said to have a "tumor of the abdomen" and who was in great distress. I found a man of about sixty years of age who was in an extremely prostrated condition and who certainly had an abdominal tumor of some kind. It filled the hypogastrium to and above the umbilicus, was semi-elastic, doubtfully fluctuant, and was slightly tender on palpation. I asked the usual questions as to the development and duration of this tumor, and then began to inquire about the urinary organs, as to difficulty and frequency of urination, etc. These questions were immediately resented, and resented so vigorously that I was discharged and another doctor called. Fortunately for the patient, the doctor was my personal acquaintance, and, although chagrined at my failure, I confided to him my view of the nature of the tumor and suggested a more insidious way of approach, which resulted in the diagnosis of hypertrophied prostate with over-distended bladder. I am sure there was nothing in the mode of the inquiry, but that it was the fact that the questions were directed to the urinary organs, which excited such an antagonism. The history of another patient to whom I was summoned in the interior of this State presents some features which also illustrate the difficulties under which the practitioner often labors, and I give it in full:

This patient was aged fifty-eight. For an indefinite period, say several years, he had noticed that he was obliged to wait several seconds before he could start his urine, and that the stream was slow and hesitating. For about four years he had been obliged to urinate on the average every two hours, and this was especially noticeable at night. He never had had any pain, and never had passed any blood from the urethra. Although the frequency of urination increased and he had a constant sense of fullness of the bladder, he did not seek any medical advice till about three weeks before I saw him. Then he had suddenly found himself unable to make any urine at all. He endured this for forty-eight hours, taking domestic remedies meanwhile, and finally sent for his doctor, who easily passed a catheter and drew off twelve ounces of healthy, odorless urine, but not entirely emptying the bladder. This gave him great relief, and he immediately resumed his ordinary mode of life in spite of the doctor's precautionary advice. He would not listen to any advice and heeded no remonstrance. For example, he would rise at night in the month of December, wrap a blanket around him, and go down into the cellar to draw a pitcher of cider. He was utterly uncontrollable, but did permit the doctor to pass the catheter once a day, in the mean while dribbling and straining in his efforts to empty his bladder. He soon began to experience pain whenever the bladder filled up, and this pain was always relieved by the use of the catheter. At the end of a week he had another retention. In the absence of the doctor he undertook to pass the catheter and failed to remove any urine, but caused some blood to flow. The doctor on his arrival also failed to relieve the bladder; a local consultant likewise, and it was not till the next day that a soft catheter was entered with the aid of a stylet. After that there was no trouble in passing the catheter twice a day, and the patient was able to make some urine naturally, but the latter always contained blood, and he suffered intense pain just after each act of urination. This pain was relieved by morphine suppositories. The introduction of the catheter did not increase the quantity of blood, and, instead of aggravating his symptoms, it was always a relief to him. A few days later I was sent for. I found that the patient was one of the leading men in his community—the political director and legal adviser of the district. A robust man of good sense, and, although rendered somewhat more docile by his sufferings, he was still unyielding to his doctor, arguing over and combating everything that was undertaken for him. He was suffering constant suprapubic pain, which was aggravated by the distension of his bladder and relieved by the voluntary evacuation every hour and a half of about an ounce of urine. *Per rectum* the prostate gland was found to be enlarged to the size of a lemon, firm, but unusually tender for a chronic condition. Bimanual palpation was not possible owing to suprapubic tenderness, nor did it seem advisable to introduce a sound. The diagnosis of chronic hypertrophy of the prostate, with subsequent over-distension and atony of the bladder, was based upon the long antecedent history of hesitating and finally frequent and imperfect urination. The sudden retention might have been due to atony, but, as there was no history of dribbling, it was no doubt caused by an acute congestion of the prostate excited by a long drive two days before, at the end of which he had come home thoroughly chilled. But it was evident also that he was suffering from symptoms of an inflammatory character, which began at the time of the second retention. It is probable that he would have escaped these more serious changes if he had remained in bed and otherwise obeyed his doctor's injunctions, but, as I have said, he thought that he knew more than the doctor and paid no attention to his advice. The second retention was more difficult to overcome and was accompanied by greater constitutional disturbance, and the subsequent acts of urination were immediately followed by intense pain and free blood. As the bladder, in emptying, closed down upon the inflamed prostate, pain was felt and blood was squeezed from the congested vessels. The tenderness *per rectum* was also indicative of inflammation, for usually the simply hypertrophied organ is remarkably insensitive.

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* Read before the New York Clinical Society, March 25, 1887.

The diagnosis had already been made in great measure by the medical attendant, and the treatment, employed in so far as the patient had yielded, had been eminently judicious and skillful. It was plain, though, that the patient's condition had been aggravated by his willful disregard of the directions of his doctor; and it was equally plain that my province was to awaken his confidence in and solicit his obedience to the latter, who was somewhat discouraged. A brief but vigorous statement on my part soon satisfied the patient that his doctor was right, and that, although he knew nothing about law, he did know about diseased prostates and their management, and that strict obedience to him was necessary for a speedy recovery. I afterward heard that this had the desired effect, and that in a few days the patient was able to be up and about, and has since done well. The treatment advised was for the acute condition and was very simple: Absolute rest in bed till the pain and bleeding ceased. The catheter to be used as seldom as possible and only to prevent over-distension. Morphine in quantity to relieve the irritability and tenesmus of the bladder, and to cease giving it as soon as possible. Absolute milk diet. And to discontinue the diuretics (buchu and uva ursi) which had been given, for they only served to increase the quantity of urine, and thus gave the bladder more to do. After the acute attack had subsided the patient was to be taught to pass the catheter himself and to wash out his bladder daily.

It may be remarked here that, in my opinion, in all acute conditions of the genito-urinary organs it is better to avoid all medicines and drinks which increase the quantity of the urine, for it has seemed to me that it is the increased functional activity of the parts which often aggravates the patient's sufferings. It is true that there are times when a too highly concentrated or super-acid urine will act as an irritant, but in my observation patients suffer more from frequently passing a large quantity of watery (yes, alkaline) urine, the result of diuretics, than they do from the smaller quantity of normal urine. During acute stages it is wise to secure as much physiological rest as possible, and therefore I endeavor to reduce the activity of the kidneys and bladder by stimulating that of the skin and bowels. Upon these points I should be glad to receive your opinions.

A patient whom I examined in 1883 illustrates an error in diagnosis which might easily be made unless all the steps of an examination are carefully and patiently taken.

He was aged fifty-seven. Five years before, undue frequency of urination without any pain or vesical distress had begun and continued to increase, till within the past year he found himself urinating oftener than usual during the day and from fifteen to twenty times at night. Finally, in January, 1883, he had constant involuntary escape of urine night and day—the so-called "incontinence of urine." He was then under the care of a specialist in dermatology who had made a diagnosis of stricture of the deep urethra, and was treating him by the introduction of bougies every second or third day. When the overflow of urine began he became alarmed and sought the advice of another medical gentleman, this time a specialist in diseases of the heart and lungs, who passed a catheter and made the diagnosis of enlarged prostate and advised the patient to use the catheter every day. He was very much relieved by this, but toward the end of the year he came to me for an opinion. The frequency of urination, more marked at night, would lead one to suppose that he had some trouble with his bladder rather than with his kidneys, because in disease of the latter it is the quantity of urine which is increased, and this is intensified by the activities of the day. Moreover, he had none of the appearances of a subject with Bright's disease, and subsequent examination of the urine excluded this. Then the history of the painless involuntary escape of urine by night as well as by day was suggestive of an "overflow" from a bladder which already was filled to its utmost capacity. And what was the cause of this filling of the bladder? Of course some obstruction to the escape of the urine, and the most likely in a man of his years, with such an insidious history, would be hypertrophied prostate rather than stricture of the urethra. Still he might have either or both, and if a narrow meatus or stricture in the penile urethra could be demonstrated, sufficient cause for the imperfect and excessive action of the bladder would be present. Further examination was therefore necessary. With the urethrometer his urethra from the bulbo-membranous junction to the meatus was found clear to 36 French. The solid sound entered the deep urethra and was not deflected, but its handle had to be depressed very deeply before its point could be made to surmount some obstacle. Stricture of the urethra was thus excluded. The digital examination by the rectum followed and showed an insensitive enlargement of the prostate to double its normal size. No further attempt at examination of the prostate through the urethra was made, for the diagnosis of hypertrophied prostate, with a certain amount of atony of the bladder from over-distension, was warranted by the facts already obtained. In this case the treatment which had been instituted was not efficient. He had been somewhat relieved, but simply passing the catheter and drawing off the urine, which contained pus and mucus, was not enough to diminish the irritability of the bladder to its lowest point. He was therefore directed to wash out his bladder every day, and, if necessary, to be prepared to do it all the rest of his life. I did not see this patient again for nearly four years, but his subsequent history is interesting, as it illustrates the necessity of attention to this matter of daily washing, and also that of cleanliness of the catheters. He came to me again in June, 1886. He had got on very well; his intervals of urination had lengthened to five and six hours during the day and to three hours during the night. He had become careless about washing out his bladder, and he had also been indifferent to cleansing his catheters, rarely washing them. For some time past he had noticed more deposit in his urine, and for several days he had been troubled with tenderness along the urethra and a free discharge from it. It was this which caused him to seek my advice. There was decided swelling and tenderness of the urethra and an abundant purulent discharge. There was no tenderness of and no change in the prostate. But he was having some increased irritability of the bladder, and the urine was ammoniacal when passed and contained pus and mucus and some blood. From the filthy condition in which I found his catheters I concluded that they were the cause of his new symptoms, and again directed the washing of the bladder and insisted upon the most scrupulous care of the catheters. In two days he was much better.

In order to keep the catheters pure and safe from germs, absolute cleanliness must be enjoined. It is not sufficient to give these patients a solution of carbolic acid, or of some other antiseptic, and trust to their keeping the instruments in it all the time. My observation has led me to direct them to wash their catheters with hot water and soap immediately, or as soon as possible, after each using, till the urinary odor is entirely removed, or, for the want of a better guide, until they are willing to put the instrument in their mouth. After that they may keep it in an antiseptic solution if they choose.

Too much stress can not be laid upon the importance of washing out the bladder, but it is an art, and the frequency with which it is done and the solutions used must be adapted to each case. When properly done and persisted in, the comfort attained by the patient is, in some cases, remarkable. One patient with hypertrophied prostate, an old gentleman of nearly eighty, who can not urinate without the catheter, has intervals of six or eight hours between the acts of urination achieved by the most careful and persistent washing with simple warm water with a little salt in it. He has been under my care for over six years. At times, from some indiscretion in diet, or from some over-fatigue, or from neglect of washing the bladder, he has had a return of frequent urination, occasionally as often as every two or three hours night and day. On these occasions I have had him washed out frequently during the day and sometimes as often as he urinated, especially if there was any increase over the usual amount of mucus in his urine. In a few hours the intervals would begin to lengthen, and in a day or two be normal again. If his urine is super-acid I give him benzoate of lithium in the Buffalo lithia water, and the effect upon his urine is a very speedy one, without any disturbance of his digestion.

In some of the text-books, especially in Sir Henry Thompson upon "Diseases of the Prostate," you will find directions for using in the bladder solutions of sulphate of zinc, acetate of lead, carbolic acid, and the like, but on the few occasions upon which I have used such substances I have had cause to regret it. The irritability of the bladder has been increased, and thick pasty coagula have been passed with much straining and distress. There may be English bladders that will tolerate such treatment, but I have never yet met with an American one that would. Fortunately, we have more effective measures and without the element of risk of injury. Weak solutions of biborate of sodium and dilutions of the boro-salicylic solution have been very useful to me both in private and hospital practice, but the mode of using has always seemed to me to be of as much importance as the solution itself. That is to say, the frequency of the washing must be carefully adapted to the condition of the patient; the solution must be warm, not hot or cold; not too much allowed to flow into the bladder at a time; and further dilution must be made on the slightest evidence of irritation of the bladder. There is one "little thing" connected with the washing of the bladder which I have come to regard as of considerable importance. You will pardon my calling your attention to apparent trifles, but it seems to me that the comfort of our patients is heightened by the careful consideration of details. The patient or his body-servant should be taught to carefully siphon out the last few drops of urine, or mucus, or pus—the dregs, so to speak—from the bottom of the bladder. It is done in this way: After the last of the urine or of the washing solution has escaped from the catheter, let the patient make a final effort of straining, and at the same instant close the finger tightly over the mouth of the catheter and keep it there while the latter is withdrawn. In the eye of the instrument or in its lower inch or so will be found a column of urine and of mucus, or muco-pus, as the case may be, which would certainly have been left behind to trouble the bladder. It is possible that you have resorted to this manœuvre yourselves, but it grew out of my own experience and occurred to me while caring for a simple but troublesome case, and which was speedily relieved by my personal attention to this detail. Another matter which you may think trifling and to which I have already referred is the use of weak solutions of chloride of sodium for washing the bladder. Others have probably used it also, and I mention it only in order to contribute my experience with it. As it has served me well for several years, I have been much interested of late to read in one of the current French or German journals a recommendation of its use for the same purpose. My own idea, in the beginning, was to find a substance sufficiently antiseptic, readily available, and which was perfectly safe to place in the hands of these patients for long-continued daily use. Hence I chose common salt. Permit me, in conclusion, to cite briefly two cases which will illustrate its usefulness, and in which the symptoms were more or less contrasting.

The first patient was aged sixty-four. For several years he has had frequent urination, and five years ago he had an attack of retention of urine, which was relieved medicinally. Since then he has had increased frequency of urination, with straining, and he habitually gets up at night five to six times to urinate. He has been treated for diabetes, "kidney complaint," etc. A certain amount of his frequent urination was, no doubt, reflex, due to an exceedingly sensitive stricture one inch from the meatus; but he had general hypertrophy of his prostate, and four drachms of residual urine. He was gently taught to pass a soft catheter once a day to draw off the residual urine, and gradually instructed in the art of washing out his bladder with the solution of common salt (ʒ j-quart). The frequency of urination was immediately reduced to three times the first night, and the straining disappeared entirely in the course of two months; but although the urine became clearer, its residual amount persisted. Acting upon the unwise counsel of his family doctor, he has refused to have any treatment for the stricture, which I believe has a positive effect upon the action of the bladder.

It should be remarked here that residual urine does not necessarily mean prostatic enlargement. It means some interference with the complete emptying of the bladder, and this may be functional or organic, or both. For example, I recently performed exploratory cystotomy upon a patient who had suffered for years from irritable bladder and residual urine, and who had no prostatic enlargement of any kind, acute or chronic. At the time of the operation it was found that he had a bar at the neck, with a sacculation of the *bas-fond* of the bladder. I divided the one and prolonged drainage relieved the other.

The next and last case is in strong contrast with the preceding in regard to the severity of the symptoms. The patient was aged seventy. He had had frequent and difficult urination for several years. Retention of urine four years ago, relieved by catheter. He was then taught the use of the catheter, but was not taught to wash out his bladder. He used his catheter at haphazard, and grew gradually worse. Finally, attempts at washing out his bladder were made with various substances—carbolic acid, borax and glycerin, borax alone, etc., etc.—but they only aggravated his symptoms, and gave him such pain that he became afraid to try any washing at all. When he sent for me he was urinating every half-hour, and rarely, even when at his best, going as long as two hours. In order to urinate he would rise from his bed, walk about a few seconds, and then, with great forcing and straining, emit a small quantity of urine. The latter was ammoniacal when voided, and loaded with stringy muco-pus and strongly tinged with blood, which at times escaped in small clots. He was in constant pain, subject to recurring chills, and utterly wretched and weak from loss of sleep. *Per rectum* his prostate was found to be enormously hypertrophied. Subsequent examination of the urine showed that he had also chronic diffuse nephritis. When I proposed systematic use of the catheter and washing of the bladder, he dreaded it so that I had considerable difficulty in overcoming his objections. I told him I intended to use only a solution of common salt, and would desist if it gave him the least distress. The effect was so comforting that he then permitted me to wash him out twice a day, and on the fifth day thereafter my records show that he was having from two to three hours' solid, restful sleep, without any opium or other treatment. He then left for his home, which was in another State. He continued to improve, as I learned from his letters, but his visits to me were so fugitive, and he was of such an obtuse, helpless character, that I was unable to do all for him that I am sure could have been done. For instance, his condition would lead one to suspect the presence of stone, but I was able to secure but one examination with negative results. However, he persisted in the washing, and I have a record three months and one seven months later from which it appears that his intervals of urination averaged two to three hours, that his urine had lost its odor of decomposition, and that in weight and strength he had gained greatly. The case is cited only to exhibit to you the improvement gained by simple washing with simple means.

127 East Thirty-fourth Street.

The French Society of Ophthalmology.—In the programme of the *Société française d'ophthalmologie*, which opened in Paris on the 2d inst., we notice the announcement of a paper on "Rapid Optometry," by Dr. Bull, of New York.

SEVEN CASES OF BUCCAL TUBERCULOSIS;

WITH REMARKS UPON TUBERCULAR ULCERATION OF THE TONGUE.*

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The subject of tuberculosis, even when restricted to the limit fixed by the title of this paper, is one of such great depth and breadth that to consider it fully would far exceed the bounds of an ordinary thesis. No such attempt will be made, therefore, upon this occasion, but attention will be called briefly to the records of seven well-marked cases lately observed by the writer, some features of which are new and, it is hoped, instructive, and to certain statistical deductions made from a survey of the literature of the disease as relating to the mouth in general, and in particular to tubercular ulceration of the tongue. The best apology for this, were any required, would rest in the fact that, although more than one hundred theses and recorded cases have of late years been published, nothing, so far as we are able to learn, has been done in the collective investigation of the disease. The urgent importance, it need hardly be said, of an early diagnosis, and the terrible rate of mortality attending the affection, render any information as to its clinical history and pathological character, and any definite knowledge as to what may be accomplished in the way of treatment, most desirable.

The question as to the possibility of the existence of true tubercle in the pharynx it is not necessary for our purposes to discuss. Whether we believe with Virchow on the one hand, or with Rokitanski on the other, there can be no question that in the disease known and universally recognized as tuberculosis there is found an ulcerated condition of certain mucous membranes which has such peculiar and well-marked characteristics that we are justified in regarding it as possessing an identity of its own, and in dealing with it as a distinct affection.

Through the kindness of Dr. John S. Billings, of the Surgeon-General's Office, Washington, a very complete bibliography of the subject has been placed at the disposal of the writer. By the aid of this, together with the original cases here presented, there have been found 114 well-authenticated cases, which as to their location are distributed as follows:

Of the tongue.....	51	cases, or	45	per cent.;
" " pharynx....	24	" "	21	" "
" " mouth......	22	" "	19	" "
" " velum palati.	8	" "	7	" "
" " tonsils......	4	" "	3·5	" "
" " nasal cavity.	5	" "	4·5	" "

From this it appears that by far the most frequent seat of the disease is the tongue, nearly one half of the recorded cases having been of this variety. This being true renders it of all the above-mentioned groups the most important, and a more careful study of the fifty-one cases is at once suggested. In considering the disease as manifested in other parts of the oral cavity, and in reviewing the statistics given above, together with the histories of the cases herein recorded, it will be seen that tubercular ulcers may occur upon any part of the mucous lining of the mouth. Even in the few instances here originally cited it has been found upon the tongue, the cheek, the gums, the tonsil, the velum palati, the posterior wall of the pharynx, and the roof of the mouth, while Volkmann and Hausemann have seen it upon the lip. Again, wounds and abrasions of the mouth and tongue may become infected and assume the condition of true tuberculous ulcers in patients already affected with the disease. Dr. Hunter Mackenzie calls attention to a case recorded by Fränkel, in which tubercular disease supervened in a case of specific ulcer of the lip, while Hausemann reports one in which tubercular ulceration of the mucous membrane of the mouth followed cancer of the lip. Hunter Mackenzie himself believes that tubercle and lupus of these regions may co-exist.

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* Read before the American Laryngological Association at its eighth annual congress.

Turning now to the consideration of the cases in which the disease was located in the tongue, a sufficient number of them have been reported to render possible a certain amount of generalization. An attempt has been made, therefore, to analyze them, with the following results:

Of the fifty-one cases reported, there were found the records of twenty-six.

Of these, so far as stated, all but *two* were in males.

The disease was primary in nine cases, secondary in nine cases, not stated in eight cases. As to the location of the ulceration upon the tongue, it was situated anteriorly in fourteen cases, laterally in seven cases, posteriorly in one case, not described in four cases. The longest duration of a primary case found was two years and a half, and the shortest ten weeks.

The ages of the oldest and youngest patients in whom the disease occurred primarily were, respectively, seventy-one and eleven years; secondarily, sixty-three and twenty-three years.

The average age in sixteen cases was forty years.

It appears, therefore: I. That tubercular disease of the tongue, more common than any similar manifestations in other parts of the buccal cavity in the male, is in the female extremely rare.

II. That in a fair proportion of instances it occurs primarily.

III. That its most common location is in the neighborhood of the tip of the tongue.

IV. That it is sometimes found upon the side and dorsum of the tongue.

V. That posteriorly it is unique.

VI. That it may occur at almost any age, but that it is most common in middle life.

VII. That its duration, so far as may be judged from the foregoing, is short.

While secondary tubercular ulcers of the tongue may generally be diagnosticated with comparative ease, it can not be denied that in primary cases the signs and symptoms are so little distinctive as readily to mislead the observer. Indeed, in many cases in which operative measures have been resorted to, the tongue has been excised under the impression that the disease was epitheliomatous, and its true nature only recognized under the microscope.

So important is a correct understanding of the physical appearances of the tubercular ulcer that it has seemed well to quote the description of it given by Mr. Henry T. Butlin, in his admirable treatise "Diseases of the Tongue" (page 98). He says: "A completely developed tuberculous ulcer, not too broken down and sloughy, presents most of the following characters: The surface is uneven, pale, and rather flabby, granulated, or often covered with yellowish-gray viscid or coagulated mucus; the edges are sometimes sharp cut, sometimes beveled, seldom elevated, or everted, or undermined, not usually very red, but often redder than the surrounding tongue; there is very little surrounding induration; indeed, there may be none; the adjacent portions of the tongue are generally a little swollen, sometimes decidedly swollen and sodden; the outline of the ulcer has no characteristic shape, but the borders are often sinuous and the shape is not unusually oval, or ovoid, or elongated. In the immediate neighborhood of the ulcer, and perhaps extending for some distance beyond it, are sometimes observed tiny yellowish-gray points or patches, or elevations, or, in the place of these, minute ulcers, which in time increase in size. The depth of the ulcer varies much; in the earlier stages it is superficial, but as the disease advances it may eat deeply into the substance of the tongue, and, eating more deeply at one part than another, may present different depths at different parts. It is almost invariably painful in the later stages, and there is almost always salivation. In this description some resemblance may be discovered to the tuberculous ulcers of other parts of the body; in the pale and flabby granulations, the sharp-cut or beveled edges, the absence of surrounding inflammation and induration."

The surface of the ulcer is sometimes described as "caseous," although this condition is by no means constant. Mr. Butlin goes on to say that tubercular ulcers of the tongue may commence in several different ways: by the breaking of a small blood bleb or vesicle, or by the formation of a tiny nodule or a little yellow point or patch, which gives way before it attains the size of a pea, or even half that size. Often it forms as the result of some continued local irritation or slight injury.

According to Volkmann, tuberculosis of the tongue may occur either in the form of ulcers or of distinct tumors, which gradually soften in the center. The former bear certain resemblances to malignant disease, the latter to gummata. These tumors may persist for a long time, and attain considerable size.

A case in which the lesion was superficial ulceration, with hard and thickened edges and a fissure extending deeply into the substance of the tongue, as described in Case I of this paper, was reported by Stewart, in the Philadelphia "Medical News," May 29, 1886.

The minute anatomy of tubercular ulcers of the tongue does not differ materially from that of the same lesion in other parts. While the presence of the bacillus of tubercle will furnish conclusive proof as to the real nature of the disease, failure to find the bacillus can not be considered as excluding it, as has been seen in several cases observed by the writer. This is readily explained by the exposed position of the ulcer, which allows it to be subjected to the action of matter taken as food, and thus permits of the forced removal from its surface of any loose object located upon it.

Dysphagia, although not always present at first, soon develops, and is generally toward the later stages of the disease very severe. As the strength of the patient becomes impaired, sloughing of the sore may take place, its granular surface being lost and assuming more active characters; or, without actually sloughing, it may rapidly advance, until it has laid bare the muscular fibers of the tongue. The lymphatic glands of the angle of the jaw are often enlarged. The *prognosis* is absolutely bad. In every case which has come to the writer's knowledge, and in which the ultimate result has been reported, excepting the single instance of which a history is given in this paper (Case I), death has sooner or later resulted.

Treatment.—Butlin believes in the actual removal of the tubercular ulcer—1, because of the possibility of relieving the patient from future tubercular disease by infection through the ulcer; 2, because the disease is seldom difficult to reach or to remove, and the operation is far less formidable than that for carcinoma; 3, because the ulcer is in itself exceedingly distressing, and, through the distress which it occasions, leads to debility and death.

Mr. Butlin prefers this method to the use of the actual cautery, and believes that the latter offers no advantages over excision. Among the methods proposed by other surgeons, Körte recommends extirpation of the tongue by means of the galvano-caustic écraseur. Fereol, Stromeyer, Weber, and Schuh, on the other hand, object to extirpation, while Trélat and Fereol recommend the actual cautery.

In studying these opinions one is impressed with the fact that, while tubercular ulcers have been found in all parts of the tongue, from its tip to its base, and while they may exist in any degree of severity, from a small, superficial erosion to a deep and extensive ulceration, no difference as to treatment is suggested by the same observer, but the means respectively advocated are described by each writer as of general application. Between the galvano-cauterization or the excision of a small area of diseased tissue and the actual extirpation of the whole organ there is certainly a wide and important difference. It would be hard to understand why such diversity of opinion should exist, excepting upon the ground that few opportunities for observing the disease have presented themselves to the various authors quoted. Accepting the theory that local tuberculous infection may, if allowed to progress unchecked, become general, there can be no doubt as to the necessity for the complete removal of the ulcer at the earliest possible date. That this should be accomplished with the least amount of irritation to the surrounding parts is also evident. In the opinion of the writer, the means to be employed, therefore, should be at once thorough and conservative. Their choice must depend upon the nature, extent, and location of the ulceration in the particular case in hand. Thus, if the disease be superficial, not very extensive, and situated within easy reach, several resources other than the extreme measure of extirpation present themselves. Of these the use of lactic acid must be mentioned. From the experience of the writer, and from the testimony of others, the good results of this remedy are by no means constant, for while under its application some ulcers are quickly healed, others show little effect beyond the appearance of a general improvement in condition without any decided tendency toward permanent repair. On the whole, however, its action is beneficial, and in some cases at least it has been curative. In Case I extreme dysphagia was allayed by application to the ulcers throughout their full depth of cocaine, while their general condition was greatly ameliorated by applications of a mixture of iodine, carbolic acid, and glycerin, the influence of which seemed to be antiseptic, alterative, and anæsthetic.

The old formula of morphine and iodoform, so useful in ulcerative conditions of the larynx, is of less practical value in tuberculosis of the tongue, from the greater difficulty of keeping the powder in contact with the surface of the ulcer. It still retains, however, a useful place in the therapeutics of the disease.

In the treatment of superficial ulcers of the tongue the galvano-cautery promises better results than any measure yet suggested. It should be applied at a high temperature, deep cauterization should be avoided, and, finally, not too great an extent of surface should be treated at one time. Of the advantages of the galvano-cautery over the thermo-cautery little need be said.

Another plan proposed is that of excision. In the case of superficial ulcers this may be accomplished by simply scraping the surface with a sharp curette or spoon. It occasionally happens that the surface of the ulcer is complicated by fissures, which extend from the periphery more or less deeply into the substance of the tongue. The suggestion of Mr. Butlin—namely, actual excision of the affected tissue—would seem to be applicable in such conditions, particularly where the ulcer is situated somewhat anteriorly. Extirpation of the whole tongue, although advocated by good authorities, must have been meant by them to apply to cases in which the disease had produced deep and wide-spread destruction. In Case I, herein reported, the operation of extirpation seems somewhat radical, considering the limited amount of tubercular deposit present, and it is possible that a less severe procedure would have accomplished the removal of the infected area. On the other hand, it must be remembered that, to the great credit of the operator, the case is the first and only one on record in which this heretofore uniformly fatal disease has been treated with the result of establishing a complete and permanent cure.

In the management of tubercular ulcer in other parts of the buccal cavity and pharynx much greater difficulties are likely to present themselves, owing to the delicacy of the parts involved and to the greater inconvenience of reaching them. The best results from local treatment will be gained probably by first spraying the ulcer with a solution of resorcin, from one to two per cent. strong, or with a weak dilution of Dobell's solution, and then applying to it either lactic acid or, in some cases, a solution of iodine, or possibly, best of all, powdered iodoform, or the solution of iodoform in ether. Dysphagia may be allayed and the patient enabled to obtain the requisite nourishment by the application of a solution of cocaine or of morphine to the surface of the ulcer, while, if necessary, the process of deglutition can be much simplified by the use of a small-sized feeding-tube, through which food can be injected into the stomach.* Treatment, to be effective, must be carried out with thoroughness and with great regularity, and the general nutrition of the patient maintained with care.

Case I. *Primary Tubercular Ulcer of the Tongue.*—Arthur L., aged thirty-five, Ireland, laborer, married, family history good as far as known, previous history good.

Six weeks before first observation began to have pain in swallowing, located at base of tongue. This increased steadily until it became excessive. Complained of no other symptom. Remained at work for two weeks, but grew worse daily, and finally had to give up. Placed himself under medical treatment, with no improvement. Antisyphilitic treatment was followed by no good results. Aside from local trouble, is strong and well. On inspecting buccal cavity, the anterior part of tongue, the velum palati, and the pharynx are normal. Laryngoscopic examination of the base of the tongue, however, reveals the presence of two fissures with elevated edges and deep, sloughing walls. They are situated upon the right side between the circumvallate papillæ and the epiglottis, and seem to be about half an inch in depth. The larger one is one and a half by one inch in superficial extent. Palpation gives great pain and reveals induration of the edges of the lesion, not, however, well pronounced. The mucous membrane covering the right arytænoid cartilage is red and œdematous, as are the vocal bands.

In the center of the larger ulcer are many large, flabby granulations which are best detected by the finger, which also detects induration in the tissue of the tongue itself toward the left of the ulcer. Externally on the right side, under the angle of the jaw, is a small, hard lump, about the size of a chestnut. The corresponding region of the left side is normal. Slight fœtor of breath.

Dysphagia extreme and deglutition almost impossible. Pain constant and so severe as to produce insomnia and render life unbearable. The patient is anxious to submit to anything which will give promise of relief.

Applications of a four-per-cent. solution of cocaine resulted in readily and absolutely checking the pain, which would remain in abeyance for about five hours, deglutition meanwhile being easily accomplished. An application of a mixture of iodine and carbolic acid, repeated once on the third day, was followed by marked improvement. The patient's general condition, however, was deteriorating so rapidly that he was transferred to the New York Hospital, where complete excision of the tongue was immediately performed by Dr. William T. Bull.

A speedy recovery from the operation was made, and signs of general improvement at once began to manifest themselves, the patient gaining thirty-five pounds before he left the hospital. At no time before or since the operation has it been possible to detect the presence of disease of the lungs or of other internal organs.

The microscopic examination, made in the pathological laboratory of the New York Hospital, for which the writer is indebted to his friend, Dr. George L. Peabody, is as follows: "Many sections from edge of ulcer examined; all contain tubercular material, extending from an eighth to a quarter of an inch into tissue of tongue about ulcer. No glands found affected. A salivary gland, probably the submaxillary, cut away and found to be normal, except that here and there areas of inflammation were seen in its stroma."

Case II. *Secondary Tubercular Ulcer of Tongue.*—William B., aged fifty-four, United States, married, carpenter. Gave no specific history. Hard drinker. Six months before the date of this history was attacked with cough, anorexia, night-sweats, and vomiting. This continued for four months, when the cough subsided and the appetite improved. One month after the beginning of his illness the patient noticed an occasional soreness on the left side of the tongue, anteriorly. Two months later there appeared a papule in the same region. This was devoid of pain or redness. Soon after this the tongue became ulcerated along its left border for one inch, beginning at a point half an inch from its tip for a breadth of about one sixteenth of an inch. There was considerable lancinating pain. The ulcer has increased in size rapidly. When examined, the patient was much emaciated. There was an irregular ulcer more than one inch in diameter to the left of the median line anteriorly. The surface of this was honey-combed and covered with decomposing food and sloughs. The edges were prominent and hard. The pharynx and soft palate were congested. There was enlargement of the sublingual gland of the left side, but no enlargement of the glands of the neck. There was severe dysphagia.

In view of the constant pain to which the patient was subjected, and the interference of this and the dysphagia with his nutrition and general condition, it was determined to remove the affected tissue. A partial excision of the tongue was therefore performed at the New York Hospital by Dr. William T. Bull. The patient subsequently died from asthenia.

For the notes of the microscopic examination of the specimen the writer is again indebted to Dr. Peabody. "The ulcer shows at its edges masses of tubercular tissue and some miliary tubercles situated both beneath the mucous membrane and between the muscular bundles. These masses vary much in size and shape, their centers are in great part cheesy, they contain numerous giant cells, and are the structural elements and arrangement of tubercle."

Case III. *Secondary Tubercular Ulcer of the Tongue.*—(For this case, of which the following is a synopsis of the history, the writer is indebted to his friend, Dr. Beverley Robinson, of New York.)

I. S. T., United States, aged forty-nine, married, coachman. Family history negative. Always enjoyed good health until three months before the date of this history, when he contracted a severe cold. Following this he had a cough, at first dry, later attended with expectoration. Rapidly lost appetite, flesh, and strength. Had no night-sweats and no hæmoptysis. Six weeks before date of history began to suffer from hoarseness and sore throat. No other symptoms. When first examined was anæmic and emaciated. Physical examination of lungs revealed phthisis, second stage, throughout upper lobes of both sides. Laryngoscopic examination showed left arytænoid swollen and pyriform, both false cords much tumefied, left vocal band eroded. One week after this examination there appeared under the right side of the tongue a whitish patch, an inch by an inch and a half in extent. For a considerable distance around this the edges were reddened and indurated. The frænum linguæ and adjacent parts of the floor of the mouth were also indurated. At this time cavities began to appear in the lungs. Two weeks later the patch above mentioned had developed into an irregular superficial ulcer. Death resulted in about eight months from the beginning of the disease.

Case IV. *Primary Tubercular Ulcer of the Velum Palati.*—J. T., aged forty-three, Ireland, porter and night-watchman.

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* See "A Reference Hand-Book of the Medical Sciences," article "Dysphagia."

Family history good, so far as known. Previous history excellent. Was somewhat dissipated when a young man, but denies specific disease and gives no evidence of having had it. Has always worked very hard. Was perfectly well up to ten months ago. Then strength began to fail without any assignable cause, and cough, with slight expectoration, came on. Three months ago his throat began to be sore. This has increased steadily, particularly within the last two weeks, when marked dysphagia was developed and he began to emaciate rapidly. With all the dysphagia he has been able to swallow liquids without difficulty. When first seen about two months ago, and four weeks after the throat became affected, the patient appeared to be a poorly nourished, somewhat emaciated, but not cachectic-looking subject. Carefully conducted examinations of the chest, made by several good auscultators, failed to discover the presence of disease in the lungs. Examination of the pharynx revealed a series of ulcerations, beginning at the outer margins of the uvula on both sides and extending irregularly outward along the lower border of the velum about one inch. The ulcers were superficial, with yellowish-gray centers, rounded edges, and a very faint areola. Their general conformation, together with their absolute symmetry, suggested at once specific disease. The other characteristics of that condition, however, were not so well marked. The larynx, nasal passages, and posterior and lateral walls of the pharynx were congested, but otherwise normal. In addition, there was deep and somewhat extensive ulceration of the mucous membrane of the gum adjacent to the second bicuspid and first molar of the left upper jaw. The administration of anti-specific medicines was followed by no good results, the patient's condition, on the contrary, deteriorating under them, and his throat growing steadily worse. About one month ago the first signs of pulmonary involvement became evident. Three weeks later examination of the chest revealed prolonged expiration at right apex down to second rib, with coarse, moist râles at the left apex. Meanwhile the ulceration has advanced slowly in its superficial extent, but it has gradually involved the deeper tissues of the velum and has advanced somewhat posteriorly. Treatment by applications of iodoform has seemed to give little or no relief. Applications of lactic acid, undiluted, have been of temporary benefit. The contact of the acid with the affected surface has given almost no pain, but its general effect in improving the local condition has been unsatisfactory. Patient disappeared, so that no subsequent history has been obtainable.

CASE V. *Primary Tubercular Ulcer of the Cheek.*—Eddie B., aged six, United States. Father died of phthisis. Mother living and healthy. Has two other children; both enjoy good health. Patient has complained of slight malaise for not more than two weeks. Was brought to the Demilt Dispensary on account of an ulcer upon the inside of the cheek, which had refused to heal under simple remedies and which evidently gave great pain and annoyance, especially in eating.

When first seen, the patient was apparently a tolerably well-nourished child, with a complexion and coloring of unusual beauty and brilliancy, and a bright, intelligent face.

Examination of the mouth showed a narrow, excavated ulcer, which extended along the line of the lower left molars for about an inch, involving the deeper layers of the mucous membrane and having a yellow, sloughy center, and abrupt, well-defined edges. The teeth adjoining this ulcer were badly decayed and jagged. Mouth and pharynx otherwise normal, except a slight catarrh.

The decayed teeth were removed and the patient placed in the children's ward of the New York Hospital, in the service of Dr. Peabody, where, under the best conditions of hygiene and local treatment, the buccal ulcer made such slow progress toward improvement that the case excited unusual attention. About six weeks after entering the hospital, the ulcer being still unhealed, hectic, night-sweats, and emaciation, together with the pulmonary signs of tuberculosis, were developed, and after running a short course proved fatal. The autopsy showed acute general tuberculosis.

CASE VI. *Secondary Tubercular Ulcer of the Tonsils.*—Patrick O'B., aged twenty-seven, Ireland, horse-car conductor. No direct history of hereditary tuberculosis. Parents not living; causes of death unknown. Brothers and sisters living and healthy. Has always led a steady and temperate life, and until within two years has enjoyed excellent health. Has never spared himself in the matter of hard work. Two years ago began to run down, the first symptom noticed being a laryngitis. Has grown steadily worse.

When first seen at the Demilt Dispensary, March 15, 1886, patient appeared a small, poorly developed, emaciated, profoundly anæmic victim of advanced phthisis. Large cavities at apices of both lungs, and coarse moist râles throughout both. Complained of extreme dysphagia, almost complete insomnia, incessant cough, night-sweats, occasional hæmoptysis, great depression, and rapid loss of strength. Laryngoscopic examination revealed extensive tubercular ulceration of the larynx and epiglottis. There was also an ulcer upon the middle of the surface of the right tonsil, about half an inch in diameter, another similar one, about half as large, upon the corresponding part of the left tonsil, and several other smaller ulcers on the roof of the mouth and on the gum adjacent to a decayed upper molar tooth. Pain in swallowing seemed to be referred chiefly to these points. Applications of iodoform gave little or no relief. Much temporary ease was gained by the use of cocaine.

April 7th.—A thorough application of pure lactic acid was made to the large ulcer on the right tonsil. Cocaine having been first applied, the effect was almost painless. Two days later reported himself as being much improved, and said that he had eaten and slept comparatively well. On inspection, the surface of the ulcer appeared cleaner, and its extent smaller. Another application of lactic acid was made, this time to both tonsilar ulcers.

12th.—Reported still greater improvement. The small ulcer on the left tonsil had disappeared, while that on the right was much reduced in size. He was given a solution of cocaine to use at home. From this the happiest results were derived in relieving the dysphagia, the insomnia, and the annoying sensation of dryness in the throat of which he had complained.

16th.—The remaining small ulcer of the right tonsil had almost entirely disappeared. The patient looked much better, and said that he ate with good appetite and slept well, and that he could swallow both solids and liquids, a thing which before had been impossible. Was greatly encouraged. This continued for about two weeks, when he began to run down very rapidly, and shortly died.

Microscopical examination of scrapings from the ulcers, made by Dr. William Stowell, microscopist to the Demilt Dispensary, showed "A small amount of fibrous structure of tonsil, with few epithelial cells. Greater part of specimen consists of fine granular matter with abundance of tubercle cells and occasional giant corpuscles. Few pus cells. None of the tubercular bacilli found by fuchsin staining."

CASE VII. *Secondary Tubercular Ulcer of the Pharynx.*—(Through the kindness of Dr. George M. Lefferts the writer was allowed to study and report the following case:) Mr. I., aged thirty-eight, United States, gave a history of pulmonary phthisis dating back two years. About four months before the date of this observation an ulcer appeared upon the posterior wall of the pharynx. It has resisted treatment, and has steadily grown worse. When examined by the writer there was upon the posterior wall of the pharynx, to the right of the median line and a little below the level of the lower margin of the velum palati, an ulcer, oval in shape, about three quarters by seven eighths of an inch in diameter, with an excavated, yellowish center, around which was a distinct, somewhat elevated areola. The mucous membrane in the vicinity of this ulcer was anæmic, but otherwise healthy. Severe ulceration of the epiglottis also existed. There was marked dysphagia.

THE PROGNOSIS OF ACUTE LOBAR PNEUMONIA.

By W. D. SCHUYLER, M. D.

(*Continued from page 210.*)

The next question in regard to this condition is, What indications for treatment are afforded by a greater extent of local development, or of the local process? Inasmuch as a greater extent of consolidation, as we have seen, does not justify a worse prognosis, that condition does not, therefore, indicate a preventive treatment against its occurrence. And as the sojourn of a local process, however extensive it may be, normally is brief, and its complete removal is generally rapidly accomplished by the natural forces, no indications are developed upon other grounds. But, inasmuch as the more extensive consolidations generally occur in robust subjects, who, as a rule, recover, and the less extensive and less perfectly formed processes more generally occur in depraved subjects, in whom fatality is, as a rule, more frequent, therefore a greater extent of local process may be held as indicating a more tonic and resisting state of the patient, and a better prognosis, while a lesser extension may denote a more asthenic constitutional state, and hence indicate a worse prognosis. The therapeutic indications arising from these deductions are, therefore, for a comparatively earlier exhibition of tonics and support in connection with less extensive and especially less perfectly formed processes, and particularly if there is other evidence of debility present.

An Apex Development.—What is its prognostic significance, and what does it therapeutically indicate? I can take no exception to the teaching that the development of the pneumonic process at the apex justifies a less favorable prognosis than when it occurs at the base or in the middle section of the lungs. But, while accepting the fact, it is pertinent, as regards determining its therapeutic significance, to inquire whether such unfavorable result is due to a more destructive action of the disease when it occurs in that locality, or whether it is due to some other cause—a concurrent condition, a state of comparative physical depression, which possibly governs both the site of the development and the greater fatality.

That the greater mortality occurring in apex cases is not due to any special, a more severe character and effects of the disease or a more destructive effect locally, is evident from the fact that, as a rule, both the constitutional and local manifestations, sthenically considered, are less marked than when the local development occurs elsewhere. Therefore, as they do not occur from a more severe and dangerous character and action of the disease, the worse results in these cases must be due to unfavorable conditions of the patient.

The inference that idiopathic local (functional and organic) and general (constitutional) conditions are respectively responsible—the former for the localization, and the latter for the attendant fatality in these cases—is justified as to the former by the fact that, as a rule, in all pulmonary affections that supervene upon debilitated states, as, for instance, chronic phthisis or emphysema, the site of the disease is most frequently at the apex. This tendency of morbid processes in the lung, that occur in debilitated states of the system, to locate at the apex, not before rationally accounted for that I am aware, is probably to be explained by a lessened power of resistance in the organs in that region, due to a comparatively less adequate nutrition which there obtains, owing to the greater natural obstacles to be trophically overcome in that region, in chronic asthenic conditions. The nutrient supply of arterial blood to the afferent pulmonary structure is derived from the bronchial arteries. The origin of these vessels—being given off from the largest portion of the aorta (the right is sometimes derived from the first aortic intercostal), where the contractile elasticity of that vessel acts less continuously and effectively upon the blood-stream to fill its branches than it does farther from the central organ and close to the heart, where the blood is rendered most turbulent by the action of that organ—predisposing to a less perfect and adequate filling, especially in anæmic conditions, than would occur in any other portion of the systemic circulation; the incompetent support they receive and the defective action and extension rendered to them in asthenic conditions, when, as a rule, the inspiratory act, and, hence, the filling of the lungs, is diminished, favoring an incompetent flow of nutrient blood to the apex structures; and, lastly, the occurrence of a diminished blood-supply to these parts on account of a greater tendency, where the vessels are imperfectly filled, of that fluid to gravitate to the lower portions of the lung, affords abundant grounds, in conjunction with an existing condition of general anæmia, to account for diminished tonicity and a lessened power of resistance trophically at the apices than naturally exists in other and less elevated portions of the organs, which fact accounts for the more frequent development of morbid processes at the apex in debilitated states. This presumption being true for other diseased apex localizations, it is reasonable to assume that it also governs the site of development of a pneumonic process in that locality. Therefore a specially active localization of the disease generally occurs in asthenic subjects. Furthermore, if debility is the cause of an apex development of pneumonia, it is fair to presume that to the same cause, asthenia, is to be attributed the greater fatality which results in those cases.

Again, that a greater local asthenia of the pulmonary structure at the apex of the lung determines the site of the process in these cases, and that such localization is but a sign of constitutional debility, is supported by the occurrence, as a rule, of a slower local development and the less sthenic constitutional manifestation that these cases usually exhibit, and is further rendered probable by the fact that upon no other ground or theory yet advanced can such development of site and occurrence of a greater fatality be accounted for. And, it may be remarked, such conclusion is consistent with the theory of a disturbed equilibrium of the dynamic forces of resistance (vascular) and pressure (circulatory force) as the essential cause and factor of an acute lobar pneumonia, which, also and only, is competent to account for the greater predisposition in general of the local process to develop at the *locus minoris resistentiæ* of the entire lungs or where the organs are most subject anatomically to the circulatory forces, at the base of the lungs, or notably at the base of the right lung.

From the foregoing we see that, while an apex development, in accordance with general teaching, justifies a worse prognosis, the essential cause of the greater fatality in these cases is the presence of general organic debility, which the localization symbolizes, and which affords the required indication for its rational and early supporting treatment.

Intensity of Fever.—A greater intensity of fever in pneumonia is generally held to indicate a less favorable prognosis. Strictly speaking, is general teaching on this point correct? That is, is it true that a higher grade of pneumonic fever, as it occurs in accordance with its typical curve and as such is compared with a lower grade of fever as it occurs, is more prognostic of a fatal result?

While it must be admitted that a higher grade of febrile action, occurring as a feature of any disease, is more exhaustive of the vital forces involved than a lower grade, and that in so far a higher febrile expression in this disease promotes unfavorable results, yet I hold that the prognostic significance of a higher febrile curve in acute lobar pneumonia is not necessarily unfavorable. A glance at its typical febrile curve will show that the pyrexia of acute pneumonia is not an important factor with regard to prognosis, for neither by its height nor by its duration does it costitute a sufficiently great or prolonged departure from the normal to constitute an element of danger. Although this curve may attain a height of 105° to 106°, or even higher, yet its mean average is under 104°, and its duration is limited on the average, counting from the initial chill, to from five to nine days. In some cases it may run an abnormal course, and continue for two or three weeks, or even longer, but usually defervescence is on or before the seventh day. Its normal limits, therefore, can not be said to embody dangerous conditions. Besides, that a higher (normal) fever does not warrant a worse prognosis, generally speaking, is to be inferred from the fact that the greater mortality from pneumonia does not occur in the more sthenic cases, in which the higher febrile curves are developed, but in the asthenic cases, in which what may be considered a high temperature —except as a pre-agonistic sign—is rarely developed.

The fact that death results more frequently in asthenic cases—not characterized by the higher temperatures—justifies my view that a high fever, if it conforms to the typical curve, is not necessarily an unfavorable prognostic sign, while the fact that a higher pyrexia is most frequently met with in sthenic, robust cases, is to be taken, on the contrary, rather as evidence of better vital and more resisting conditions on the part of the patient, and, therefore, as affording grounds justifying a more favorable prognosis.

I may remark here that when death occurs early in the course of a pneumonia quickly manifesting a high temperature of 104° to 105°, or even higher, and maintaining it to the end, which may occur in irritable and sthenic, especially acute alcoholic, cases, such result is not necessarily or generally due to the pyrexial action, the morbid temperature not reaching a sufficiently high point to cause death in itself, but to some vital functional stress and failure resulting, in either the lungs or heart—at this stage principally in the lungs. In these organs this functional stress is due to the inhibitory presence and development of the local process, and probably, in addition, to collateral congestion, or congestion and œdema in the remaining lung structure, and to the resisting action of a morbidly developed circulatory pressure exerted within them, the total of which may cause their respiratory insufficiency and a fatal apnœa. And cardiac failure in these cases may result from exhausting efforts (of the right heart) to overcome the resistance provoked by the pulmonary stress and obstruction.

As further illustrating the non-essential import of fever as an unfavorable prognostic datum, there are two facts to be taken into account: First, the entire process of acute lobar pneumonia may occur without fever. This fact has been noticed by several observers, and I have recorded a case that came under my own observation. Second, when fever occurs in acute pneumonia, it is symptomatic. The evidence of this is that it develops with the developing local process or pulmonary obstruction, is maintained while such obstruction lasts, and abates with crisis—a phenomenon that denotes obstruction has been sufficiently removed to permit of a resumption of circulation through the pneumonically obstructed area.

Upon the ground, then, that fever is not an essential phenomenon in acute pneumonia, that it is symptomatic merely, that it does not occur in its higher manifestations in the class of cases which develop the greatest fatality, and, lastly, that its higher curve when normal is not dangerous, I hold that its greater height, within the normal, does not necessarily constitute an unfavorable prognostic sign.

The indications derived from the foregoing for the treatment of the pneumonic fever are: From its *normal* curve, without regard to height, expectant; when a high fever departs from the normal curve and becomes unduly high, or is unduly prolonged, febrifuges, such as also act sedatively, are called for; and, inasmuch as death from pneumonia occurs most frequently in debilitated patients in whom the higher manifestations of fever do not occur, and, therefore, a low grade of fever may be regarded as denoting asthenia, such an expression of pyrexia and its degree should indicate a tonic treatment.

Age.—What is its prognostic significance in this disease, upon what does such significance depend, and what is the indication for treatment afforded by this condition?

Accepted teaching strongly affirms that age is a most important factor of death in pneumonia. Is this teaching essentially and specifically true? As affirmative evidence I quote the following:

Aitken (*l. c.*, p. 741) says: "Age has a decided influence on the issue; of those attacked with pneumonia between forty and fifty years of age, about one in five die, and after sixty, more than one in two; the peril is directly in proportion to the age." Niemeyer ("Text-book of Practical Medicine," vol. i, p. 183) says: "Pneumonia is an extremely dangerous disease to aged persons; . . . the mortality from this disease among old people amounts to between 60 and 70 per cent." Juergensen (von Ziemssen's "Cyclopædia," vol. v, p. 138, *et seq.*) considers the subject under three heads: (1) from "childhood to puberty," including cases up to sixteen years of age; (2) during "the age of vigor," including cases from sixteen to thirty years of age; and (3) "during the age of decline," including cases occurring in subjects of thirty and upward. Of the first he says: "During this period, if the child has hitherto been vigorous, the danger is less than at the other ages"; of the second, "pneumonia during this period also is not a dangerous affection"; of the third, "during this period pneumonia is one of the most dangerous diseases." As showing a greater mortality in the aged from pneumonia, and, furthermore, as indicating a progressively increasing frequency of death from the disease *pari passu* with advancing age, this author gives the per cent. of its mortality at Greifswald for the ages between forty and fifty as 9·5 of the cases, between fifty and sixty as 20 per cent., and between sixty and seventy as 37·5 per cent. He also gives the mortality at Stockholm for the same decades, and says: "While at the latter place the increase is less than at the former, yet in each case the series ascends." He refers also to the fact that in Paris about one half the patients with this disease beyond sixty years of age die, and says "the same is true in Basle." And Loomis, of this city ("Practical Medicine," p. 95), says: "The prognosis depends more upon age than any other single element."

According to these various authorities, then, who may be said to correctly represent general teaching upon this point, the fact is that age is a most important and positive element of prognosis; that as a patient reaches, with reference to increased age, advanced stages in life, his chances for recovery from an attack of this disease certainly and progressively diminish; and that the mortality from this condition or circumstance alone in the advancing decades of life is from 20 to 40 to 60, and even 70 per cent. or higher of the persons attacked.

This is a grave indictment from a therapeutical standpoint, as being specifically true, and as age is not remediable by treatment, it accounts to a great extent for the occurrence of a large mortality from this disease in the closing decades of life (of from 60 to 100 per cent. of the cases), whatever treatment may be adopted, and whether it is dictated by the greatest skill or by complete ignorance, or is characterized by neglect—the inference upon which such justification rests being that very aged persons can not recover.

That advanced age alone is not a justifying condition for giving up a patient with pneumonia at the outset is at once apparent to every physician of experience, as such must have witnessed recoveries from that malady even in the very aged.

Therefore, as recoveries do occur in the very aged, and, as we shall see, in the very young also, notwithstanding the undeniable character of the evidence upon which advanced age is made to appear a most unfavorable factor in the prognosis of pneumonia, and its general acceptance, and in order that we may possibly develop such indications for treatment of the age conditions as will wholly or in part prevent the great mortality that occurs in these cases, we may well inquire whether it is specifically true that age—even advanced age—essentially and in itself, is a valid cause of death in this disease.

In my opinion, age in itself is not a cause of death in acute lobar pneumonia. On the contrary, I think it can be shown that it is not the age of the patient (which can not be treated), but some concurring, corresponding, and unfavorable condition or vital state (that is subject to treatment), that determines the unfavorable results in this class of patients. And, furthermore, I premise that when death occurs from pneumonia in a patient of extreme age, or of any age, so far as that element is concerned, it is this concurrent condition, an asthenic state or result, that directly promotes it.

That I am right, and that it is the asthenia of the individual of any age, and not the particular period of life he may have attained, that determines fatality from pneumonia in these cases, is evident from a survey of the facts and conditions which favor mortality from that affection in the several stages of life already alluded to: First, as to the results of acute lobar pneumonia in infants, and as to what are the causes of death when it occurs in this class of patients.

[*Note.*—In this inquiry we must rigorously exclude the consideration of lobular pneumonia, a pathological manifestation principally met with in very young subjects, but quite distinct from that we are considering, especially as to its ætiology, site, limitation to a lobular investment, general extension, and results (though probably not as to its essential pathology, histologically considered), that, from its diffuse development generally throughout both lungs, and from its causal relation to capillary bronchitis, measles, or whooping-cough, almost always terminates fatally.]

(*a*) What are its results in patients of infantile age? Upon this point Vogel ("Diseases of Children," p. 294) says: "Children over two years of age bear lobar pneumonia as well as adults." P. H. Bird (Bouchut, "Diseases of Children," p. 320), in an editorial note, says: "Of twenty children who have been admitted at the hospital clinic suffering from simple lobar pneumonia in six months, all have recovered." Wilson Fox (Reynolds's "System of Medicine," vol. ii, p. 207), concerning the effects of tender age upon the results of the disease, says: "Childhood is a doubtful cause of death." In support of which statement he refers to the results attained by von Ziemssen, who, out of two hundred and one children with pneumonia, lost only seven in the acute stage and two in the later stages, giving a mortality of 3·3 per cent. Juergensen (von Ziemssen's "Clyclopædia," vol. v, p. 138), after referring to von Ziemssen's results just quoted from Fox's reference, says: "In my experience during two years at the Kiel Polyclinic with one hundred and ten patients under ten years of age, I lost only four, and all of these died from complications." This author also refers to the favorable results of Barthez, quoted by Grisolle, who, out of two hundred and twelve children from two to fifteen years of age, lost only two.

From this evidence, the answer to the question, What is the result of acute lobar pneumonia in the infant age-class? including patients of one year and up to puberty, when the disease is uncomplicated and the patients are otherwise generally robust, is decidedly good.

(*b*) What is the cause of death when it occurs in this class of cases?

Paucity of statistical facts at hand, compiled specially with regard to this point, prevents my offering extensive figures relative to it. But the evidence of Juergensen, quoted above, that the four patients he lost out of one hundred and ten at Kiel died from complications coming from that source, is of value, and, in conjunction with the following, which is relative, will answer our purpose.

While uncomplicated and generally robust patients of infantile age, as we have seen, as a rule recover, the disease in the very young and in foundlings is very fatal. This is shown by the cases of MM. Valleix and Vernois (Bouchut, London, 1855, p. 325), who, out of one hundred and twenty-eight new-born infants and *enfants trouvés*, lost one hundred and twenty-seven; also by a further statement of Juergensen (*l. c.*), who says: "Pneumonia is very prevalent in foundling institutions and in hospitals of large cities which are provided for very young children"; and says that "Grisolle frankly admits that in these large institutions pneumonia is almost necessarily fatal, at least that this is the case in Paris."

It is fair to conclude, from these very grave results and on general grounds, that the characteristic vital state of the new-born, and especially of foundlings, who contract lobar pneumonia, on account of the tender age of the former, and from the neglect, imperfect regimen, deprivation of necessary food, resulting inanition, exhaustion from crying and from lack of rest, is debility or asthenia. And it is not unreasonable also to conclude therefrom that the fatality in these cases should be attributed to the adynamic condition, a physical cause, rather than to the age specifically or to the essential action of the malady. At least, the previous evidence, denoting the very favorable results of the disease in these young subjects in uncomplicated cases, taken in connection with the fact of its great fatality in foundlings and in the very young and tender, affords the strongest grounds for deciding that the cause of death in this age-class from lobar pneumonia is not age in itself, but an attendant asthenia. And this deduction is supported by Bouchut (*l. c.*, p. 334), who, referring to Valleix's results, says: "Such frightful mortality is only observed among the *enfants trouvés*, and is to be explained by the action of the fatal hygienic conditions in which they are placed." The fact also tallies with the results of my own experience with lobar pneumonia in infants, in whom, as in adults, unless marked asthenia has existed, or been developed by some complicating condition, it has terminated in recovery.

[*Note.*—In fact, with regard to a similarity of pathological manifestations of acute lobar pneumonia in infants and in adults—except that in the former the disease more generally results from a too prolonged exposure to cold, or, what is more common, to draughts of air simply, while in adults a predisposing condition is a more frequent requirement; that in infants it is not generally ushered in by a chill, as it is in adults, but by convulsions; that the local process in infants is correspondingly less extensive, forms more quickly, less frequently affords a well-marked crepitant râle, is of shorter duration, resolves more rapidly, and a well-marked crisis is not so likely to be a feature of its defervescence—I have found the disease in them generally the same as in adults.]

(*To be continued.*)

A CASE OF
COMPLETE DETACHMENT OF THE RETINA,
WITH ŒDEMA AND FORMATION OF SEROUS CYSTS.

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PROFESSOR OF OPHTHALMOLOGY IN THE NEW YORK POLYCLINIC, SURGEON TO THE MANHATTAN EYE AND EAR HOSPITAL, NEW YORK, ETC.

I FIRST met the patient at the Hôtel de Choiseul et d'Égypte, in Paris, in the spring of 1881. He was sixty-six years of age, a resident of Massachusetts, and was traveling abroad, in accordance with the instructions of his family physician, on account of a severe and intractable chronic bronchitis. He was apparently quite feeble, and his paroxysms of coughing were of a most violent character. Mr. D. had noticed confusion of vision after a coughing spell that day, and, on testing the eyes separately, had found that it was the right eye that was at fault. In short, a large portion of the field of vision of that eye had been obliterated, and the portion that remained was filled with floating scotomata. Having learned that I had some special knowledge of diseases of the eye, Mr. D. determined to consult me. I found in addition that he had, from his earliest recollection, been extremely near-sighted. An ophthalmoscopic examination showed extensive detachment of the retina, with floating bodies in the vitreous. The rational explanation of the attack seemed to be that in coughing violently he had ruptured a chorioidal blood-vessel, and that the blood forced through this opening had not only ripped up the retina, separating it from the chorioid, but had ruptured some portion of the retina, and thus made its way into the vitreous to an extent limited only by the resistance of the fluid already occupying the vitreous chamber of the eye.

I was obliged to give the gentleman an unfavorable prognosis in so far as the restoration of vision was concerned. Indeed, it seemed to me very doubtful whether he would be able to continue his travels, and highly improbable that he would ever return to Massachusetts alive. We parted after a few days' sojourn in Paris, and I did not see him again until December 13, 1882, when he called upon me in New York. He had returned from his travels in various parts of Europe, including Italy, his general health greatly improved, but with his right eye remaining practically blind. Two weeks previously he had run against the edge of a door while groping about in the dark, and had broken his spectacle frames, and the next day he had found that he could not see with his left eye as well as before. I found his left eye myopic one half, and with $-\frac{1}{2}$ his vision was only $\frac{20}{100}$ ($\frac{1}{5}$). The next day I examined the eye through a dilated pupil, and found extensive staphyloma posticum, with floating bodies in the vitreous. I ordered the glass that seemed to give him the most comfort, gave him some advice as to the care of his eye, and referred him to Dr. Andrew H. Smith for examination of his throat and chest. Dr. Smith reported that Mr. D.'s disease was not tuberculosis, but only chronic bronchitis, with laryngitis—an opinion which fully corroborated that of his family physician.

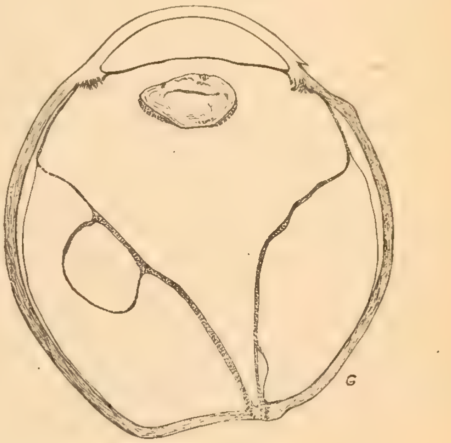
When Mr. D. came to see me again on March 25, 1885, there was, in addition to the retinal detachment, a mature cataract in his right eye. He had noticed a further impairment of the sight of the left eye, which was also the seat of a mild conjunctivitis. I found that he had vision $\frac{6}{200}$ with his glass, $-\frac{1}{8}$, but $-\frac{1}{2\frac{1}{2}}$ gave him vision $= \frac{20}{70}$. I prescribed $-\frac{1}{2\frac{1}{2}}$ for occasional use, and gave him a wash for his conjunctival affection.

July 11, 1885.—V. $= \frac{20}{200}$ with $-\frac{1}{2\frac{1}{2}}$, raised to $\frac{20}{100}$ with $-\frac{1}{2}$.

November 10, 1886.—Six days ago Mr. D. tried his eyes very much during a whole evening, while acting as chairman of a meeting. The right eye has since been inflamed and irritable. While no mydriatic has been used, the pupil is dilated and fixed, and the tension is appreciably increased. The eye is red and watery, and there is constant spasmodic inversion of the lower eyelid. Upon consultation with Dr. C. R. Agnew, it was decided to advise enucleation, because the eye, having long been useless as an organ of vision, and having now taken on an inflammatory condition, which was probably incurable, and which could, at the best, be only temporarily relieved by treatment, it was believed that, if retained, it would shorten his days by constantly interfering with his comfort, disturbing his sleep, and destroying his appetite. Accordingly, on November 11th, assisted by my friends, Dr. C. R. Agnew and Dr. F. W. Ring, I enucleated the eyeball. Mr. D. took ether kindly, notwithstanding his bronchial affection. The eye was placed in Müller's fluid, and turned over to Dr. Ira Van Gieson, Pathologist to the Manhattan Eye and Ear Hospital, for examination.

The further history of the case will be best related in the patient's own words, extracted from a letter to me, dated December 28, 1886. He says: "I am still troubled by a slight secretion of pus in the eye-socket. The source seems to be behind the lower lid at the extreme outer angle made by the two lids, though there is no soreness nor apparent inflammation. I am beginning to think I shall have to conceal the deformity by a lens in my spectacles which is translucent but not transparent, but should like your opinion in the matter. My reasons are: 1. Before healing is complete, the parts are likely to become so much shriveled as to make the insertion of an artificial eye a somewhat violent procedure, likely to be followed by more or less irritation. 2. My nervous organization is extremely sensitive to physical discomfort, so that I always keep my artificial teeth in my pocket, except when in company. 3. I am past seventy-one years of age, with a chronic bronchial infirmity and a constitution much impaired by lavish nervous expenditure and by sickness, and I am reluctant to burden my remnant of life by the trouble and care involved in taking out and putting in an artificial eye, and keeping both the eye and its environment in a cleanly condition."

The following is Dr. Van Gieson's report of the examination of the enucleated organ: "Cornea and sclera normal. The iris in places is swollen and œdematous. There is hyalin degeneration of the vessels of the iris. Ciliary processes normal. The ciliary bodies are flattened. The chorioid is very much reduced in breadth from pressure, and the walls of the vessels are pressed together. The pigmented retinal epithelium is attached to the choroid. The retina is completely detached; it is swollen, and the outlines of the retinal elements are indistinct. The topography of the layers is still evident, but the whole retina seems to have been infiltrated by fluid. The layer of rods and cones is absent, and in its place there are numbers of larger and smaller transparent globules lying against the limitans externa. In the outer nuclear layer there are numerous small spheroidal cavities filled with fluid, and containing delicate flattened connective-tissue fibers, with wing-like anastomosing processes. These are the fibers of Müller, exposed by the disappearance of the outer nuclei. These small cysts are inclosed between the limitans externa and the external molecular layer. There are similar cavities in the inner nuclear layer, but fewer in number. The cavities in the two nuclear layers are distinct from each other, having a bridge of the outer molecular layer between them; in one or two places in the section this bridge is partially removed, so that there is an incomplete communication between the two sets of cavities. In the detached retinal lamina on one side, about midway between the papilla and the ciliary body, there is a large cyst splitting up the retina, and apparently formed in the same way as the smaller ones. It is globular, and measures 5 mm. in diameter. Its wall corresponds to the limitans externa, and its attached retinal base is formed of the remaining retinal layers, excepting the inner nuclear, which has disappeared. Its contents consist of a granular fluid, a net-work of fibrin, in which are a few scattered red blood-cells, and some small spherical nuclei. In the section the anterior wall of the cyst is rendered thicker by the apposition of a layer of red blood-cells. There is a second similar cyst in the retina of the opposite side, near the papilla, measuring 1 mm. antero-posteriorly and $\frac{1}{2}$ mm. transversely. There is hyalin degeneration of the retinal vessels. Between the capsules of the lens and the lens proper, both in the anterior and the posterior regions, there is a zone of large swollen ellipsoidal and polyhedral nucleated cells, exhibiting mutual pressure facets. This zone is broader at the lateral poles, where it measures $\frac{1}{2}$ mm. These cells appear to be derived from the anterior capsular epithelium. There are also streaks of larger and smaller transparent globules distributed through the substance of the lens. These globules result from a breaking down of the lens fibers. All of the chambers of the eye are filled with a serous fluid. In places there are masses of fibrin.



"*Anatomical Diagnosis.*—Complete detachment of the retina, with œdema and formation of serous cysts. Capsular cataract. Partial degeneration of the lens. The features of interest in the eye are: The series of intermediate stages in the development of the retinal cysts, so that the largest cyst may be described as dependent upon an exaggeration of the conditions producing the smaller ones. And, secondly, the distinct demarkation between the zone of swollen capsular epithelium and the ordinary degeneration of the lens fibers."

THE
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THE BLACK BEES OF TASMANIA AND THEIR MEDICINAL HONEY.

In a recent communication to the Paris *Académie de médecine*, which is published in the "Progrès médical" for April 16th, Dr. Thomas-Caraman, of Forges-les-Eaux, reported upon a matter which must be regarded as among the most notable of the therapeutic novelties of the day, being nothing less than the discovery of a sort of honey possessing in a remarkable degree the medicinal properties of the *Eucalyptus globulus*, or of some species of *Eucalyptus*.

It seems that, about three years ago, a distinguished French naturalist, M. Guilmeth, who was traveling in Tasmania, came suddenly upon a grove of gigantic eucalyptus-trees, from 260 to 390 feet high, and with a trunk so large at the base that it took forty of his Kanackas, joining hands, to reach around one of them. High in these lofty trees he discovered what he at first took to be enormous galls, but which he soon ascertained were the dwelling-places of swarms of small, black, wild bees of a variety before unknown to him. Dr. Thomas-Caraman proposes for this bee the provisional name of *Apis nigra mellifica*. Besides being black and smaller than the ordinary honey-bee, this wild bee has its languet rather more developed than that of the domestic bee. M. Guilmeth attempted unsuccessfully to domesticate it in Tasmania. He caused some of these immense trees to be felled, and secured the honey. The largest individual store of honey weighed as much as 11,000 pounds avoirdupois.

The honey is described as a thick, homogeneous, somewhat transparent syrupy liquid of a deep orange color; having an odor suggestive at once of its containing eucalyptus principles; very soluble in water, in milk, and in wine, but much less soluble in alcohol; and very difficult of fermentation. Its specific gravity is 1·44, and it rotates the polarized ray 22°. In round numbers, 1,000 parts contain 611 of invert sugar (mostly levulose), 2 of ash, 215 of water, and 171 of active principles, including eucalyptol, eucalyptene, terpene, cymol, and odorous, resinous, and coloring matters. Its taste is described as very pleasant. Administered to dogs, to the amount of from two ounces and a half to five ounces a day, it slows the heart's action, and this effect soon becomes so pronounced as to suggest, in Dr. Thomas-Caraman's words, a struggle between the pneumogastric nerve and the cardiac ganglia. At the same time the temperature falls about 1° C. The effects last for at least twenty-four hours, and include a slight tendency to sleep, but without any symptom of toxic depression. As the result of experiments on himself and on one of his friends, Dr. Thomas-Caraman states that, on taking a tablespoonful of the honey in a little tepid water or milk, after a few minutes one perceives a gentle, agreeable warmth take possession of the whole person. At the end of half an hour, the elimination of the active principles by the air-passages having begun, the voice becomes clearer and the breath perfumed; the lungs feel more elastic, more supple. Having continued the use of the honey for a week, four tablespoonfuls daily, the author, who speaks of himself as respectably fleshy, found that he could go up two pairs of stairs, two steps at a time, without stopping to take breath or feeling at all blown. At the same time there was slight diuresis with an increase of urea, and the urine had a decided odor suggestive of that of the *Acacia farnesiana* (the plant from which the perfume called "new-mown hay" is made).

Besides his observations of the physiological action of the honey, the author cites certain trials of it as a medicine. These data lead him to consider it a valuable aliment, an efficient and palatable substitute for cod-liver oil; an anticatarrhal; an agent affecting the heart in a manner comparable to the action of digitalis, but free from the inconvenient properties of that drug; a febrifuge; an antiparasitic specially applicable to the destruction of the micro-organisms of tubercular and scrofulous neoplasms, the *Leptothrix vaginalis*, and oxyures; and, finally, an antiblennorrhagic, by virtue of its being more actively eliminated by the uro-genital tract than either copaiba or sandal-oil. It is destined, he thinks, to play a great part in the treatment of laryngeal, bronchial, pulmonary, cardiac, and scrofulous affections; in malarial and typhoid fevers; in whooping-cough and influenza; and in renal, vesical, and vaginal troubles.

It may be said that Dr. Thomas-Caraman holds up to our view a somewhat rose-colored picture, but it must be confessed that there is no inherent improbability in the notion that an animal organism like that of the bee may be able to elaborate the medicinal principles of the eucalyptus in greater perfection than the art of pharmacy can furnish them. Should his impressions be confirmed, however, the practical question at once comes up as to the extent to which commerce can supply us with the genuine wild honey of Tasmania, and it is much to be feared that, in case of any considerable demand, we shall witness a repetition of what took place in connection with the supply of Chian turpentine and, more recently, that of alveloz—the substitution of products more or less adulterated if not wholly factitious. It would be interesting to know to what particular species of the genus *Eucalyptus* the gigantic trees found by M. Guilmeth belong. Perhaps the active principles of the tree may yet be made available without the intervention of the *Apis nigra mellifica*.

MINOR PARAGRAPHS.

THE "CHINA MEDICAL MISSIONARY JOURNAL."

We have received the first number of a new quarterly journal with this title, published in Shanghai, Hong Kong, Yokohama, and Singapore, and edited by J. G. Kerr, M. D., of Canton, J. K. Mackenzie, M. R. C. S., L. R. C. P., of Tientsin, E. Reifsnyder, M. D., of Shanghai, and the Rev. L. H. Gulick,

M. D., of Shanghai. Dr. Kerr's services to science and to humanity, rendered during a long residence in China, are known and appreciated in this country, and we do not doubt that the gentlemen who are associated with him in this new undertaking will be of material assistance in maintaining the excellence shown in the first issue of the "Journal." The number consists of forty-four large octavo pages of reading matter, the last four pages being printed in the Chinese language. The matter is all interesting, but our attention has been particularly excited by an item concerning the robbery of a hospital at Hangchow, in which all the surgical instruments were taken, scarcely a scalpel being left. The account concludes as follows:

"One of the peculiarly Chinese manifestations of interest on the part of the officials of Hangchow has been their calling together the thieves of the city to consult with them regarding the best method for recovering the lost instruments. We have not been informed of the results of the conference, but, from a western point of view, it would be natural to doubt the disinterested wisdom of any counsels the thieves may have given."

SANITATION AND THE MEDICAL PROFESSION.

The State Board of Health of Tennessee publishes in the March number of its "Bulletin" an article in which, along with other interesting and judicious observations, we find it pointedly set forth that too many persons make a great mistake in thinking that sanitary matters belong exclusively to the medical profession. Physicians are interested in them to no greater degree than their fellow-citizens, but their knowledge of general and medical science naturally puts them in the lead as administrators, and the public calls upon them to occupy the principal places in boards of health—everywhere, we may add, except in the city of New York, where an absurd law requires that the president of the board of health shall not be a member of the medical profession.

AGNOSTICISM.

In a recent lecture on "Agnosticism"—as good a title for the purpose as any other, perhaps, since it is one that the reader is at liberty to define for himself within very elastic limits—Dr. Alexander W. Stein gives a clever and entertaining presentment of a number of the curious phenomena of animal and vegetable life, mingled with many a pointed stricture on those ardent but callow agnostics who are so uncatholic in their view of these and other natural phenomena as to plume themselves on their cultivated disbelief in the immortality of the soul, or the "principle of conscious identity," or whatever else we may choose to call it, while loyally denying the possibility of destroying a single atom of matter.

MATERNAL IMPRESSIONS.

We lately called attention to Dr. Barker's valuable paper on this subject, published in the last volume of the "Transactions of the American Gynæcological Society." We wish to add now that the profession should feel under obligation to Dr. Samuel C. Busey, of Washington, for having caused the remarks which he made in the discussion to be published in pamphlet form, so that they are likely to reach a larger circle of readers than would have been the case had they been published only in the volume. Dr. Busey, whose writing is always clear and graceful, gives a number of striking instances sustaining the belief in maternal impressions upon the fœtus, and his fairness and conservative spirit are so evident that what he says must be accepted as of very great weight.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 10, 1887:

DISEASES.	Week ending May 3.		Week ending May 10.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	8	2	4	2
Scarlet fever	47	8	52	11
Cerebro-spinal meningitis	6	5	8	6
Measles	81	4	69	8
Diphtheria	104	41	85	52
Small-pox	15	5	22	9

An International Congress of Inebriety is to be held in London on the 5th and 6th of July, under the presidency of Dr. Norman Kerr. Among the American gentlemen whose names are included in the list of vice-presidents are Dr. T. D. Crothers, Dr. N. S. Davis, Dr. J. H. Blanchard, Dr. L. D. Mason, Dr. C. H. Hughes, Dr. J. B. Mattison, Dr. Joseph Parrish, Dr. T. L. Wright, Dr. E. C. Mann, and Dr. Albert Day. Dr. Crothers is the chairman of the American committee.

The College of Physicians and Surgeons held its annual commencement exercises in Steinway Hall on Thursday evening of this week. The Hon. Stewart L. Woodford was announced to deliver the address to the graduating class.

Bequests and Donations to the New York Academy of Medicine.—At the meeting of the Academy held on the 5th of May, the treasurer for the Trustees reported the following additions to the permanent funds:

1. From Henry S. Rokenbaugh, Esq., executor of the estate of Mrs. Celine B. Hosack (widow of the late Dr. Alexander E. Hosack, formerly of New York), the sum of $70,000, upon the following conditions as expressed in the testator's will:

"*Third:* I estimate the total value of all the property which I acquired from the estate of my lamented husband as not exceeding the principal sum of seventy thousand dollars, and I do give and devise and bequeath unto the society or corporation known as 'The New York Academy of Medicine' the sum of seventy thousand dollars, payable within one year after my decease, which it is my will and desire shall be devoted or applied by the Board of Trustees of the said society or corporation to the purchase or erection of a library building or lecture-room, or some other suitable building adapted to the purposes of said society, which in memory of my dear husband, Alexander E. Hosack, shall in some appropriate manner be designated with and known by his name forever.

"If the said sum of seventy thousand dollars shall be insufficient to defray the entire expense of constructing the whole of any building to the erection of which the Board of Trustees of the said society may deem it proper to apply the money, then it shall either be allowed to accumulate at interest until the amount shall be sufficient for the purpose, or it may be used and applied to the construction of any separate part of the building or any particular room or suite of rooms or any wing or addition to any building belonging to the society and devoted to the objects for which the said society was incorporated which can be separately distinguished from the other parts of the same building so as to be dedicated and designated in some suitable manner as a monument in memory of my husband."

2. From the same source, a free bed in perpetuity in the Roosevelt Hospital, as follows:

"*Eighth:* I do give and bequeath unto my executors hereinafter named, the sum of ten thousand dollars, in trust, to apply and pay the same (or so much thereof as may be necessary) to 'The Roosevelt Hospital' in the city of New York, to purchase a bed which in memory of my husband shall be known as the Hosack bed, and which shall be occupied from time to time by such sick and needy physicians as may for that purpose be named or designated by the president and treasurer for the time being of the New York Academy of Medicine."

3. Through the president of the Academy, Dr. A. Jacobi, the donation of $5,000, largely due to the generosity of Mr. Jacob Meyer, of New York, upon the following conditions:

> "1. The fund is to be forever known as 'The Philippine Meyer and Ernst Jacobi Library Fund,' and be so borne and described in the accounts of the New York Academy of Medicine and in any publication by the Academy enumerating the several trust-funds in its possession.
>
> "2. The income from the fund to be applied to the purchase of books for the reference library: each book so purchased to be appropriately marked and designated so as to indicate that it is the proceed of this fund.
>
> "3. It is also covenanted and agreed that the existence of this fund shall in no way affect the appropriation of such other moneys or funds as the Academy may find desirable for the acquisition of journals or other books."

The Association of American Medical Editors will meet in Chicago on the Monday evening preceding the meeting of the American Medical Association. The president, Dr. Shoemaker, will read an address on "Some of the Present Abuses of Medical Literature." Members who expect to be present are asked to send their names as soon as possible to Dr. William Porter, the secretary, 3137 Lucas Ave., St. Louis.

Additional Changes of Residence.—Besides the changes noted in our last issue, we have been informed of the following:

Goffe, J. R., from 28 W. 36th St. to 326 Lexington Ave.
Heuel, E., from 217 E. 10th St. to 352 Willis Ave.

The Maryland Academy of Sciences.—Among the officers recently elected were Dr. Christopher Johnston, president; Dr. Powhatan Clarke, vice-president; Dr. John Morris and Dr. R. T. Wilson, members of the executive committee; and Dr. R. T. Wilson, chairman of the Section in Archæology.

The Medical and Chirurgical Faculty of Maryland.—At the recent annual meeting, Dr. I. E. Atkinson was elected president; Dr. C. H. Jones and Dr. J. C. Thomas, vice-presidents; Dr. G. L. Taneyhill, recording secretary; Dr. R. T. Wilson, assistant secretary; Dr. J. T. Smith, corresponding secretary; Dr. E. E. Mackenzie, reporting secretary; Dr. W. F. A. Kemp, treasurer; and Dr. G. W. Miltenberger, Dr. J. E. Michael, Dr. P. C. Williams, Dr. J. S. Lynch, and Dr. Randolph Winslow, members of the executive committee.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 1, 1887, to May 7, 1887:*

Fryer, Blencowe E., Major and Surgeon. Ordered for examination by Army Retiring Board at San Francisco, Cal. S. O. 101, A. G. O., May 2, 1887.

Sternberg, George M., Major and Surgeon. Assigned by the President to the special duty, under the Treasury Department, of "investigating the merits of the method practiced in Mexico and Brazil for preventing yellow fever by inoculation." Relieved from duty as attending surgeon and examiner of recruits in Baltimore, Md. S. O. 101, A. G. O., May 2, 1887.

Billings, John S., Major and Surgeon. Granted leave of absence for ten days, to take effect May 3, 1887. S. O. 98, A. G. O., April 28, 1887.

Middleton, J. V. D., Major and Surgeon; Happensett, J. C. G., Major and Surgeon; and Ainsworth, F. C., Captain and Assistant Surgeon. Appointed to assemble at U. S. Military Academy, West Point, N. Y., on June 1st, to examine into the physical qualifications of the members of the graduating class and of the candidates for admission to the Academy. S. O. 102, A. G. O., May 3, 1887.

Loring, Leonard Y., Captain and Assistant Surgeon. Sick leave of absence still further extended six months on surgeon's certificate of disability. S. O. 103, A. G. O., May 4, 1887.

Biart, Victor, Captain and Assistant Surgeon. Sick leave still further extended one year on surgeon's certificate of disability. S. O. 99, A. G. O., April 29, 1887.

Ewing, Chas. B., First Lieutenant and Assistant Surgeon. Ordered from Fort Leavenworth, Kan., to Fort Lewis, Col., for temporary duty. S. O. 100, A. G. O., April 30, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending May 7, 1887:*

Wyman, Walter, Surgeon. Detailed as chairman, board for physical examination of candidates for appointment as cadets, Revenue-Marine Service. May 6, 1887.

Mead, F. W., Passed Assistant Surgeon. Detailed as recorder, board for physical examination of candidates for appointment as cadets, Revenue-Marine Service. May 6, 1887.

Society Meetings for the Coming Week:

Monday, *May 16th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *May 17th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and St. Lawrence (annual), N. Y.; Ogdensburg, N. Y., Medical Association; Hampshire, Mass., District Medical Society (annual—Springfield).

Wednesday, *May 18th:* Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

Thursday, *May 19th:* New York Academy of Medicine; Roman Medical Society (private); New Bedford, Mass., Society for Medical Improvement (private).

Friday, *May 20th:* Chicago Gynæcological Society.

Saturday, *May 21st:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Obituaries.

E. Darwin Hudson, M. D., professor of general medicine and diseases of the chest in the New York Polyclinic, and physician to Bellevue Hospital and St. Elizabeth's Hospital, died on Monday, the 9th inst., at the age of forty-three years, of pneumonia. He was a graduate of the College of Physicians and Surgeons, of the class of 1867, a member of the Academy of Medicine, of the Medical Society of the County of New York, and of the New York Physicians' Mutual Aid Association.

Dr. Hudson was actively engaged in professional work, and apparently in robust health, up to the time of the fatal attack, which occurred only a few days before his death. That a career so creditable as his was so early cut short is an occasion of deep regret to his professional brethren and to all who knew him. As the result of his own qualities of excellence, practically without the aid of favoring circumstances, he had steadily advanced to a position in which he found himself immersed in a large and growing practice, which was getting to be in great measure a consulting practice; the incumbent of one of the most important chairs in an influential faculty, in the management of whose affairs his broad and conservative character was felt and recognized; a hospital physician with every prospect of soon becoming an eminent clinical teacher; a man whose standing in the community and in medical circles was, for one of his years, exceptionally strong.

Dr. Hudson was respected and admired not alone for his professional acquirements, but quite as much for the catholicity of his character, especially as displayed in his judgment of his fellows and in the mood in which he treated questions that from time to time proved ruffling to most minds. It was manifest to those who knew him well that his calmness and kindliness under such circumstances were not due to any lack of native fire or to a repression of his natural ardor in obedience to considerations of policy, but rather to the natural growth of his own peculiarly well-balanced mental constitution. Age often brings with it this adjustment of qualities, but rarely does it happen to a man comparatively so young as the subject of this notice; and it is largely because we can not continue to profit by its occurrence in his case that the loss of Dr. Hudson will be felt to be unusually grievous.

OBITUARY NOTES.

Henry Cone Van Dolsen, M. D., a promising young physician, died suddenly, at his residence, in New York, on Sunday, the 8th inst. The deceased was a graduate of the College of Physicians and Surgeons, of the class of 1882.

Marcus B. Leonard, M. D., of East Boston, Mass., died on Friday, May 6th, at the age of sixty-seven. The deceased was born in Sugar Grove, Pa., attended lectures at the Albany Medical College in 1846, and was graduated from Harvard Medical School in 1848. After two years' residence in Worcester, Mass., he settled in East Boston, where he had since resided. He was a member of the Massachusetts Medical Society and of the Suffolk District Branch.

Letters to the Editor.

A CASE OF SUPPOSED MULTIPLE NEURITIS.

Rushville, Ind., *April 27, 1887.*

To the Editor of the New York Medical Journal:

Sir: I desire to report the following case to your readers for diagnosis, treatment, and prognosis:

Dr. H., aged eighty-three years, was a practicing physician for thirty years. He retired from practice twenty years ago. He had always enjoyed good health up to the present attack, which commenced about fifteen months ago, after he had been engaged in taxidermy about three months for amusement, in which work he made free use of arsenic in curing skins.

His attention was drawn to the fact that his knife or brush would frequently drop from his right hand while he was working, and the hand also felt numb. In a day or two after he noticed these symptoms his attention was called to red blotches on both cheeks. Then he feared the arsenic might have something to do with the trouble, and left off using it.

The fingers gradually lost their power to grasp and hold anything—so much so that he could only write by the aid of a rubber band around the hand in which he fastened his pen. In the course of three or four weeks the loss of power passed beyond the wrist, and in as many months to the elbow, while about the same time he noticed loss of motion and numbness in the left knee, which in a few weeks extended to the foot. Then the same condition appeared in the right knee and extended to the foot, the limb first attacked gradually becoming more powerless. During this time he was able to walk about and able to walk forward almost as well as ever, but, on turning around, was apt to fall unless his mind was completely on the act of turning. This condition gradually grew worse until he had a hard fall backward, striking his head on a rock, sustaining a scalp wound, which necessitated his remaining indoors for some time. Since then he has not been able to walk out, and has gradually grown unable to walk at all, while his right arm is useless and his left arm is passing through the same process. Closely following the paralyzed condition, twitching of the superficial muscles set in and continued for some months, being worse in the calves of the legs. This has now given way to spasmodic contraction of the deeper-seated muscles, which is aggravated by anything coming in contact with the extremities of the limbs. The toes are drawn downward slightly. Sensation remains normal, the knee-jerk is absent, and the skin reflexes are exaggerated.

He has not suffered pain at any time, but complains of great soreness of the muscles, which is aggravated by contact or motion.

About two months ago I was able to produce muscular contractions to the slightest extent by the aid of galvanism from a freshly filled twenty-four-cell battery made by the Galvano-Faradic Co., as follows:

Right arm anode closing contraction with 15 cells,
Right leg " " " " 12 "
Left arm " " " " 8 "
Left leg " " " " 7 "

and, after daily treatments with galvanism for two weeks, no better results were obtained.

His bowels have been and remain regular. His appetite is good. He sleeps quietly and well. His sphincters are unaffected. His mind is as clear as ever, and he is able to and does transact all his business as well as formerly. There has been some soreness of the spine during the latter course of the disease, for which cupping, blisters, and other counter-irritants have been used extensively, with no visible good effect.

The treatment during the course of disease has been: internally with strychnine, nux vomica, and the various preparations of iron. Faradism was tried about six months ago, and, lastly, the galvanic current—all without any visible good effect.

W.

ANTIPYRETIC MEDICATION.

April 16, 1887.

To the Editor of the New York Medical Journal:

Sir: The very interesting "Notes on the Use of Opium in Fevers," by Medical Director F. M. Gunnell, U. S. Navy ("Report of the Surgeon-General of the Navy," for 1886, page 85), remind me that I have had strikingly good results from the administration of pilocarpine by the mouth in a case of congestive chills with threatened apoplexy. The chills were checked after a second dose of an eighth of a grain, and a return to health followed. Months afterward the patient died of heart disease. Similar effects could doubtless be obtained by the use of other preparations of jaborandi, for example, the fluid extract. Dr. Gunnell states that "too much quinine is used in the treatment of malarial cases." May it not be that fashion, *sans raison*, is answerable for very much in the administration of this so-called specific? There are yet physicians—thoroughly enlightened and active ones, too—who fail to see the rationale of antifebrile dosing with quinine; their faith lies rather in hygiene and natural forces.

Respectfully,

F. B. Stephenson, M. D., U. S. N.

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Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of April 7, 1887.

The President, Dr. A. Jacobi, in the Chair.

A Memoir of the late Dr. William H. Dudley, of Brooklyn, by Dr. A. J. C. Skene, was read, in the absence of the author, by Dr. W. M. Thallon.

The Proper Selection of Ether or Chloroform as an Anæsthetic.—Pending the arrival of the author of the paper announced, Dr. A. G. Gerster, a letter from Dr. H. Knapp was read, giving the results of his experience with ether and chloroform as anæsthetics. He had used chloroform, from 1860 to 1874, in over three thousand cases. There had been no fatal result, but many unpleasant ones, and a certain number of critical cases. About once a month he had had to resort to artificial respiration and other means of resuscitation. Having seen fatal cases in Berlin and Vienna, he was in constant dread. From 1874 to the present time he had used ether in all cases, in children as well as in adults. No general complaint had been considered a contra-indication. He had administered the ether according to the so-called choking plan, yet admitting enough air at the beginning to let the patient get over the impression of asphyxia. In several hundred cases in which he had recorded the length of time required to bring about narcosis, the average was one minute and thirty-seven seconds. He had had no fatal cases, and only very few in which it had become necessary to interrupt the narcosis temporarily. The secondary effect had been no more unpleasant than that from chloroform. He regarded ether as a safer anæsthetic than chloroform, and just as manageable if not more so.

Dr. Gerster, having arrived, proceeded to read his paper. He said that both chloroform and ether were dangerous anæsthetics. Chloroform caused very marked depression of the vaso-motor function; this depression occurred only occasionally when ether was used. The practical significance of this fact was that chloroform was the more powerful agent, and that its administration required much greater caution. But this was not sufficient ground for its unqualified condemnation. After consciousness had been restored there was no secondary danger from chloroform. On the other hand, although ether had not so often caused death on the operating-table, yet danger from its use did not cease when the patient regained consciousness; there were numerous cases of pneumonia and nephritis following its use, many of which terminated fatally. The author thought that physicians were prejudiced regarding the relative value of ether and chloroform as anæsthetics; this was especially true in New York, Boston, and Philadelphia, where ether was used almost exclusively. He proposed to point out the cases in which chloroform was contra-indicated; also those in which ether was contra-indicated, admitting that, on the whole, ether was the safer anæsthetic, and that in general preference should be given it, especially by the inexperienced. He regarded Ormsby's as the best inhaler; less ether was required with it, and recovery from its influence was much more prompt on that account.

Ether was contra-indicated in kidney disease, as Emmet had pointed out. A case was cited in which the patient died from Bright's disease after the use of ether. Chloroform was much safer when disease of the kidneys was present. It had been employed in such cases for hours without any injurious effects. Ether was also contra-indicated in bronchitis, especially of the aged, and in pneumonia. Three hospital cases were cited in which death occurred from pneumonia following an operation requiring the prolonged administration of ether. The house physician of another hospital had given him the notes of three cases of death from pneumonia during the year 1886 after the use of ether in operations. In five cases serious bronchitis occurred after the use of ether in the German Hospital during 1886. There was a class of operations in which ether could not easily be given, such as kelotomy, those involving the peritonæum, and the removal of deep-seated tumors in the vicinity of large vessels. It had been said that ether always produced perfect anæsthesia within a few minutes, but, out of 125 cases in which it was administered at the German Hospital during 1886, in eleven satisfactory relaxation of the muscles could not be produced. In those cases chloroform was substituted and produced complete anæsthesia.

There was but one contra-indication to the use of chloroform, namely, a fatty or weak heart. Ether was also objectionable in these cases, but less so than chloroform. Patients addicted to the use of alcohol, perhaps in only moderate degree, took ether badly. During his hospital practice he had known pneumonia to follow the administration of chloroform in only two cases; both were cases of a bloody operation upon the mouth, and the pneumonia was due to blood entering the trachea. Both patients recovered. Valvular lesions of the heart were not necessarily contra-indications to the use of chloroform. In such cases there was often compensating enlargement of the heart. Fear and nervous depression contra-indicated the use of chloroform. In such cases, if it was necessary to employ chloroform, he would precede its administration by that of stimulants and a small amount of morphine.

Dr. R. F. Weir said there was a growing feeling among us that ether was not so safe an anæsthetic as we had for some years believed. He had frequently given it to persons having signs of kidney disease, and without untoward effects, but he had come to employ additional precautions in such cases. Regarding pneumonia, it was more frequent when the spray was used; it was also more frequent since the free use of carbolized cloths over the wound. In other words, pneumonia occurring after the administration of ether, according to his observation, was due to exposure of the patient. He had seen less of this trouble since he had called the attention of the hospital attendants to that matter. Ether had been employed almost exclusively in the New York Hospital since 1850. From that time to 1870 about 7,700 operations had been performed, with three deaths from ether. From 1876 to 1886 there had been 2,289 operations, with one death from ether. During the latter period there had been 802 operations in the House of Relief, with one death from ether. While in many cases the patients took ether badly, he could not recall any in which an operation had had to be discontinued.

Dr. L. A. Sayre said he was so thoroughly convinced of the correctness of his views regarding the relative safety and value of ether and chloroform, that he continued to use the latter in spite of the opposition which it met with in this country. He preferred chloroform to ether because it was more agreeable to the patient, it was more speedy in its effects, it did not produce spasmodic muscular contraction, and it was not followed by bad effects, such as vomiting, Bright's disease, pneumonia, etc. He strongly condemned the careless and free use of ether and chloroform largely mixed with air, as was so common. Chloroform and ether were powerful agents, each having caused many deaths; therefore they should be used with the same care and skill employed in the administration of any other powerful drug.

The speaker exhibited an inhaler which he had employed for many years for administering chloroform. Twenty or thirty drops of chloroform employed in this way would almost invariably produce anæsthesia with a very few inhalations, and when so small a quantity was employed, if by any possibility the heart should cease to act, a few artificial respirations would restore the patient. When the anæsthetic was given freely mixed with air, so much of it entered the system that it would be impossible to restore the patient should the heart cease to beat. There was no struggle or difficulty in bringing children under the influence of chloroform when this inhaler was employed, as they became anæsthetized while blowing into it as a plaything.

Dr. W. Gill Wylie had not, so far as he knew, had any fatal result from ether during or after an operation until within two months, when two patients had died—one from acute Bright's disease ingrafted on a chronic process, the other apparently from suffocation within an hour after an operation for strangulated umbilical hernia. In the latter case the patient was extremely fat, and in such persons the danger of suffocation was greater. He had expressed a choice for chloroform before the operation. He would use chloroform in the lying-in room and for children. As a rule, he would give ether, especially in surgical operations, but he would give chloroform in certain cases of disease of the kidneys and of the respiratory organs. He also referred to another case of death from ether during an operation.

Dr. J. A. Wyeth thought chloroform was to be preferred for almost all persons under six years of age, in childbirth, and in cases in which previous experience showed that the patient took ether badly. If nephritis was present, he would proceed carefully with ether, and if dangerous symptoms arose he would substitute chloroform. He had never seen an accident from ether; certainly not a death. He had not met with the class of cases referred to by Dr. Gerster, in which the patients could not be brought under the influence of ether.

Dr. Robert Abbe said that since 1873 he had seen one death from ether. It was in the practice of the late Dr. Little. He thought the two chief ill effects of ether, bronchitis and nephritis, were under our control, whereas the danger from chloroform was entirely beyond our control. The sudden effect of chloroform upon the heart was not relieved by artificial respiration; but, when there was asphyxia from ether, artificial respiration would restore. Within the past year he had seen four cases of acute nephritis which he thought were due to the use of ether, but the disease in cases like these could be controlled. Bronchitis was due oftener to exposure to drafts, etc., than to the use of ether.

Dr. P. F. Mundé had formerly used chloroform many times; of late years he had employed ether almost exclusively. He had seen no immediate deaths from it. He had seen syncope occur which might have ended fatally had not vigorous measures been resorted to. Whatever anæsthetic was used, he felt more anxiety with regard to it than with regard to the operation. He thought it wrong to trust the administration of the anæsthetic to the new interne, or to any unskilled hands. He used Glover's inhaler by preference. In some cases he had failed to get the patient properly under the influence of ether, and had substituted chloroform with satisfactory results. In short operations and in obstetric practice he preferred chloroform.

Dr. R. W. Amidon referred to the beneficial influence of atropine or some preparation of belladonna administered prior to giving ether, in preventing the collection of mucus in the respiratory tract.

Dr. Thallon thought Dr. Gerster's paper was a little one-sided. He did not think the presence of albumin or of casts in the urine should be considered a contra-indication to the use of ether; nephritis should, however, make us more careful. The best instrument for administering ether was the apparatus employed by dentists in giving nitrous oxide.

Dr. Gerster said he had only tried to give the indications for the use of chloroform and of ether. He thought those who would not admit that there were cases in which chloroform was indicated in preference to ether were themselves one-sided. He had said that, as a rule, ether was the safer anæsthetic. It was time that a paper like this should appear when there were physicians, eminent in their profession, who maintained that one having a death from the use of chloroform should be prosecuted criminally. As to statistics, they were valueless as collected; they were unfair. If those who tabulated them did so without prejudice, they would still be misleading, for chloroform, when it caused death, did so suddenly, and the case went to the coroner and thus reached the public. Ether might cause death hours or days after its administration, and the certificate report death from Bright's disease or pneumonia. He knew of five deaths from ether in one hospital, and they had not been reported, and probably never would be. Sudden death from ether might be due, at least in part, to a changed state of the secretions from the mucous membranes.

NEW YORK SURGICAL SOCIETY.

Meeting of April 27, 1887.

The President, Dr. Charles McBurney, in the Chair.

Fracture of the Fifth Cervical Vertebra, with Recovery.—Dr. A. G. Gerster presented a patient who had recovered from this injury, and related the following history: E. H., aged thirteen, while bathing at the sea-shore on August 6, 1886, dived into shallow water and struck his head so violently against the bottom that he was stunned. He was taken from the water by his playmates and was carried to the neighboring hotel. The local physician found that there was paralysis of the left upper and lower extremities, and of the bladder and rectum. There was also paralysis of the right upper extremity (with the exception of the shoulder-muscles) with paresis of the corresponding leg. I saw the boy in consultation on the 8th of August, and found on examination that the spinous process of the fifth cervical vertebra was depressed and gave marked crepitation on stretching the patient's neck and then letting go of it; the spinous process of the fourth was abnormally prominent. The head could not be held up without support, and when released it fell over to one side if the boy was supported in a sitting posture. Not knowing that his neck was broken, the family had him sit up in bed, when he complained of severe pain in his head. Weight extension was applied, and the bladder was emptied by catheter. On the 10th of August he was able to pass his water naturally. By the 25th there was a marked improvement in the right side. The patient was then brought to the city and was placed under Dr. Lange's care at the German Hospital. In October he began to walk with crutches, and he had continued to improve ever since. His gait was still ataxic, while the left arm exhibited evidences of ulnar paralysis, especially the "main en griffe"; the extension of the hand on the arm was incomplete, and as soon as it was released it at once recovered its former position. The muscles of the arm and forearm were atrophied and their condition had been but slightly improved by massage and galvanism. No abnormity of outline was to be detected in the neck, the fracture being firmly consolidated, while the irregularities observed in the projection of the spinous processes had been smoothed down by the callus. A symptom frequently described by authors—*i. e.*, priapism—had not been present.

Dr. Peters asked how the extension had been obtained.

Dr. Gerster replied, By means of Glisson's apparatus, and also by elevating the head of the bed. In reply to a question by Dr. Bryant, he said that the patient had experienced relief within thirty-six hours after extension was applied.

Dr. Abbe asked if a prominence had been felt in the pharynx. Dr. Gerster replied that there was such a prominence, which was quite distinct. The patient had probably recovered because there was no interference with respiration.

Dr. Rushmore asked if there was paralysis of sensation. The speaker replied in the negative.

Dr. Briddon asked if there was any displacement at present. Dr. Gerster said that none could be felt.

Case of Old Thoracic Fistula cured by Estlander's Operation.—Dr. Gerster presented a patient with this history: J. S., aged twenty-one, a clerk, had had empyema of the left side for upward of a year. When he came under his care he had lateral curvature, a large fluctuating swelling, and a sinus in the back from which issued a profuse, fœtid discharge, while he was much emaciated and suffered with hectic, sweating, etc. On August 25th, 1879, he incised the extensive burrowing abscesses of the thorax, resecting portions of the seventh and eighth ribs, in order to gain room for the introduction of a large-sized drainage-tube. There was a rapid improvement in the patient's general condition, but the cavity did not close. On the 3d of January, 1880, he exsected portions of the third, fourth, fifth, sixth, and seventh ribs in the axillary line, making a vertical incision, the exsected pieces increasing in length from above downward. The wound was packed with gauze, to prevent too rapid repair of the ribs, and a wide bandage was applied. On April 11, 1880, the patient was discharged cured, the cavity having healed, leaving a deeply depressed cicatrix. At present there was no lateral curvature, the ribs had entirely reformed and made normal excursions on inspiration and expiration, and there was proper expansion of the left lung.

Dr. Briddon asked if Estlander did not make a longitudinal incision. The speaker said that he did, but the important point was the principle of removing the ribs; it seemed better to make a single vertical incision rather than a number of horizontal ones.

Dr. Briddon remarked that he had once removed five ribs by a single vertical incision and had been criticised for so doing, on the ground that there was more hæmorrhage than there was when the incision was longitudinal.

Dr. Gerster thought that the amount of hæmorrhage was not determined by the length of the incision alone. In his own case there had been but slight bleeding, since the principal vessels could readily be seen and secured before they were divided. In reply to a question by Dr. Sands, the speaker said that the piece removed from the upper rib was not over an inch and a half in length; that from the lowest rib, about two inches and a half. The thickened pleura was not removed.

Dr. Sands asked Dr. Gerster if he had any idea as to the nature of the nerve-lesion in the case of fracture of the vertebra. The latter replied that, since sensation was not impaired, he was disposed to believe that the motor roots of the cervical nerves of the left side had been subjected to crushing or pressure by fragments, parts of the trunks supplying the left upper extremity probably being destroyed in their continuity. The transient paralysis of the bladder, rectum, and the extremities of the right side seemed to have been dependent on pressure by bloody effusion. It was very doubtful that weight extension caused the disappearance of these paralyses; it was more probable that absorption of the effused blood was followed by improvement. However, the patient derived a great deal of comfort from the fixation afforded by the extension.

Three Cases of Ligature of the External Carotid, in Two of which both Vessels were tied Simultaneously.—Dr. J. D. Bryant read the following paper:

I think it to be both proper and essential to recall in connection with these cases something of the early history of the operation, even at the risk of adding burdensome details to a subject that has so recently been considered by the members of this society.

The first case of which a definite record can be found was operated on by M. Gensaul at the Hôtel Dieu, September 20, 1824, while he was engaged in the removal of the parotid gland for malignant disease. There is no reason to believe that he at that time considered the ligature of this vessel as one of the steps to extirpation of the parotid gland. It appears, rather, that the vessel was tied during the course of the operation, without this step having been considered as a special preparatory measure. I think it safe to assume, in view of the relation of the parotid gland to this vessel, that the surgeon who extirpated the gland first was the one who first tied the external carotid artery. To Béclard belongs the credit of having furnished the first reliable account of the removal of this gland, which he himself removed in 1823. M. Gensaul repeated the operation in 1826. In both of his cases a cure was effected. The surgeon who first tied the external carotid as a preparatory measure, of which a definite record can be found, was George Bushe, of the Royal College of Surgeons of Ireland. It was performed on a little patient about two years and a half old, to check a severe hæmorrhage following the removal of a pulsating nævus from the temporal region. The removal was not attempted, however, until all other recognized expedients had failed. The little patient made a rapid and satisfactory recovery, which pleased the operator so much that he expressed himself as follows: "I shall trust in the future to ligature of the external carotid in such cases, and here I may say that where the disease is not in the orbit I can not see the necessity of securing the common carotid for anastomosing aneurysm of the face and head." In connection with the remarks just quoted, I will call your attention to the history of the first of the three cases operated on by myself.

The patient was admitted into Bellevue Hospital, August 1, 1883. Age twenty-four, family and personal histories good. About six months before admission he had been struck in front of the left ear with a bottle which had been broken by the force of the blow. The wound of the scalp had healed quickly under simple dressing. A short time thereafter a pulsating tumor had appeared at the seat of the injury, which had increased in size continuously until the date of admission. On admission, a well-defined pulsating tumor was found at the seat of the injury, of about the size of a hen's egg, which had a distinct thrill and bruit. The trunk of the temporal artery, together with its anterior and posterior branches, was involved directly in the growth. The trunk of the occipital artery of the same side was dilated, and its anastomotic communications with the branches of the temporal bone were dilated also. The patient was kept under observation for a few days to study the peculiarities the growth might present, but, inasmuch as its chief feature consisted in its rapid development, it was decided to tie the external carotid artery of the same side, with the view to arrest the growth, if not to effect a cure. On August 7, 1883, the vessel was tied in the presence of many of the visiting and resident staff of the hospital. It was exposed in the usual manner for about an inch above the point of bifurcation. The lingual branch arose about half an inch above that point, and it was tied at once with an independent catgut ligature. After this, the trunk of the external carotid was tied with catgut at the origin of the already ligatured lingual branch. The previous tying of the lingual had provided a branchless portion of the external carotid of about an inch in extent. The ascending pharyngeal branches were sought for, but were not found. Nothing unusual was noticed during the operation, except that the internal jugular vein overlapped the external carotid at the seat of ligaturing. The ligaturing of the external carotid checked the pulsation and all other aneurysmal manifestations of the growth at once; also reduced its size to about one third of the previous dimensions. The operation was done antiseptically throughout, and the wound had healed entirely at the end of ten days, when the first dressing was removed. At this time a slight returning pulsation could be detected in the tumor, which, however, could be controlled completely by pressure on the external carotid of the right side. On August 30th the pulsations had increased, and the thrill and bruit were again noticeable. On September 8th the pulsation, the thrill, and bruit were nearly as strong as before the operation, but they could be controlled readily by pressure made on the occipital and temporal branches of the external carotid of the right side. The temporal branch only of the external carotid of the left side gave any evidences of a return of the circulation. It then became a question of tying the external carotid of the right side, or of tying the temporal and occipital branches alone, or to attack the growth itself directly. The latter plan was chosen, and was carried into effect September 26th, only about seven weeks after the primary operation. I trust I may be excused if I digress somewhat at this time to describe the details of the method that was adopted for the radical cure of this case.

The head was surrounded by two strong rubber bands, beneath which compresses were placed at the points where arteries passed to supply the scalp. By this means the arterial circulation of the scalp was controlled admirably. The growth was then nearly circumscribed just outside of its limits by a U-shaped incision made through the healthy tissue of the scalp down to the bone. The stem of the flap was made about an inch and a half in width, and it extended down to the zygoma, and the center of its long axis corresponded to the course of the temporal artery. The loss of blood was not severe, since a bleeding point could be readily controlled by pressing the vessel against the underlying skull, while its open extremity was being caught. The bleeding points were closed by catgut applied directly to them when possible. If this could not be done, they were closed by the overhand continuous suture of catgut carried around and through the borders of the divided tissues. The flap and the surface from which it had been raised were kept separated with antiseptic gauze until granulation took place; then they were fastened in apposition by adhesive straps. They united quickly, and a permanent cure resulted one month after the operation.

The following interesting practical facts are presented by this case: 1. The ligaturing of the external carotid of one side had but a temporary effect on a vascular growth that involved the branches of the ligatured vessel. 2. Pressure on the branches of the opposite external carotid artery interrupted the characteristic aneurysmal manifestations that were present in the growth at its recurrence. 3. The ligaturing of all vessels that passed to the growth, except the one of the pedicle of the flap, followed by independent granulation of the surfaces and their subsequent union, resulted in a rapid and complete cure. I find eight additional cases of ligature of the external carotid for the cure of aneurysmal tumors of the head, face, and parotid gland, in two of which both vessels were tied simultaneously. The latter procedure is not reported to have been successful in either instance, owing, no doubt, to the vascular character of the growths. Traumatic aneurysm of the parotid gland and varicose aneurysm of the ear (two cases), are reported to have been cured by ligaturing the external carotid of the diseased side. It appears, however, that the last two cases received other and decided local treatment, which might have had quite as much to do with the cure as the ligaturing of the external carotid. This fact is emphasized by the recollection of the unsuccessful cases just mentioned of a practically similar nature, in which ligature of both external carotids alone failed to effect a cure. Of a total of nine cases, but one—traumatic aneurysm of the parotid—was cured by ligature alone. These facts force the conclusion that ligaturing of the external carotid of the diseased side, and even of both external carotids, can be considered only as palliative, and can not be recommended as a means of cure for vascular growths of the head and face, except in connection with other measures. I do not think it to be a justifiable step to ligature the common carotid alone, nor in connection with ligature of the external or internal carotid for cases like the preceding, since the rate of mortality for ligature of the common carotid is 40 per cent., while that for ligature of the external carotid is 3·62 per cent. This opinion is expressed, notwithstanding the fact that the rate of cure for non-orbital anastomotic aneurysmal formations is reported by Dr. Wyeth at 28·5 per cent. from ligature of the common carotid alone, while I find it is but 11 per cent. from ligature of the external carotid. It seems to me from these facts that some errors must exist in the primary reports of these cases, since the reverse of these figures would be more consonant with the anatomical bearings of the collateral circulation of the two operators. Ligature of the common carotid should not be entertained except when from the contiguity of the morbid process the application of a ligature to the external carotid becomes impossible, or when ligature of the external carotid has failed to afford the best possible relief, a contingency to be anticipated only when the morbid growth is developed at the location of a free anastomosis of the branches of the external carotid and the intra-cranial circulation, as in intra-orbital formation especially. The second authentic ligaturing of the external carotid as a preparatory measure was practiced by John Lizars in 1830. It was done to lessen the hæmorrhage attendant on removal of the superior maxilla. Preparatory ligature of the external carotid for removal of the superior maxilla is not necessary for the safety of the patient except in such cases as when the patient is illy able to withstand the loss of blood that ordinarily attends this procedure, or bear the loss that may arise from the removal of the morbid growth that prompted the operation. I am certain, however, that ligature of both external carotids and their ascending pharyngeal branches prior to the removal of large vascular growths involving the superior maxilla and the pharynx, or retro-pharyngeal growths of a similar nature, requiring the preliminary removal of the superior maxilla, should be earnestly commended to the profession. If the growth is of a malignant nature, this plan will not only lessen the hæmorrhage attendant on its removal, but likewise delay the return by lessening the activity of the nutritive processes at its site. The third case of preparatory ligature of this vessel was performed by Dr. Valentine Mott about the year 1831 for extirpation of the parotid gland. The swelling of the soft parts contiguous to the diseased gland complicated the operation somewhat; still the patient suffered no ill effects from it, but died in less than two months thereafter from a return of the disease. The rate of mortality of ligation of the common carotid for reputed malignant disease of the parotid gland, antrum, and face (not of the orbit), is, according to conclusions of Dr. Wyeth, 44 per cent. from the operation alone, with 15 per cent. of cures resulting therefrom. I have collected nineteen instances of ligature of the external carotid for so-called malignant growths located in practically similar situations with the loss of but one patient, who died of hæmorrhage caused by sloughing of the growth. This case will be fully reported in the course of this paper. Twenty-six per cent. of these so called malignant growths are reported as "cured" by ligature of the common carotid. This seems inconsistent in view of the nature of the disease, a fact that was appreciated by Dr. Wyeth when he collated them. It is fair to assume, however, that, if ligature of the common carotid will cure malignant disease of the face, ligature of the external carotid should lead also to a similar result. If the idea is to starve a growth, then truly, from anatomical reasons alone, ligature of the external carotid is the far more rational measure, because, if the external carotid is ligatured, but comparatively little blood can reach the diseased part except by way of the opposite external carotid, provided there is no unusual anastomosis of the ligatured vessel. If the common carotid is tied for disease associated with the branches of the external carotid of the same side, then blood can reach the diseased part, not only through the opposite external carotid, but also by way of the circle of Willis and the pervious internal trunk of the ligatured vessel. With a full knowledge of these anatomical facts, and with the great difference of the death-rate of the respective operations, I fail to find an excuse even for ligaturing the common carotid for disease of the region supplied by the branches of the external carotid, except when ligature of the latter vessel is impracticable.

I will now present for your consideration the history of two cases of my own, in each of which the external carotids were tied simultaneously for malignant disease involving the inferior maxilla, floor of the mouth, and more or less of the tongue. In each of these cases reported, operations had been performed for the removal of the disease. A rapid recurrence had taken place in each instance, until the direct application of the knife seemed no longer feasible. The starvation plan appeared to be then the only one to offer any real delay to the course of the growths, combined with the greatest degree of comfort for the patients. Recalling the fact that, in the aneurysmal growth upon which I had previously operated, the collateral circulation from the opposite external carotid had re-established the circulation of the ligatured side within two months, and believing it would likewise exercise the same influence in a similar operation for malignant disease, it was determined to tie both external carotids simultaneously, which was done, in the first case, on February 2, 1885.

The incisions for ligaturing were made in the usual situation, and the enlarged lymphatic glands that were found in their course were removed. When the carotids were reached, most unusual anomalies were found. The right common carotid bifurcated beneath the posterior belly of the digastric muscle, which was divided to admit of the more easy application of the ligature. On the left side the bifurcation was located behind the hypoglossal nerve, which was drawn down, and the ligature was applied just below the posterior belly of the digastric muscle. On the right side the superior thyreoid branch was thought to be seen to arise from its usual position. No branches were found above the point of bifurcation for the distance of one inch, and a catgut ligature was applied at the middle of this space. The lingual and facial branches were not seen on the right side—a fact that caused no apprehension, for I had been informed that the facial had been tied some months before, during the removal of the diseased submaxillary gland of that side. I thought, also, that the lingual might have been associated with the facial, since this arrangement exists in about 25 per cent. of dissections. On the left side the branches of the external carotid were normally arranged. The lingual was ligatured independently at its origin, and the trunk of the external carotid was ligatured just below this. No annoyance took place during the operation other than that due to the slipping off of a catgut ligature from the proximal extremity of the purposely divided facial vein that had crossed the artery in the line of the operation. The operation was done antiseptically throughout. The malignant growth diminished rapidly in size, the pain ceased, its discharge became scant, thin, and watery, and the ability to speak and to swallow improved rapidly. On the fifth day a portion of the tumor of the right side, corresponding to the former site of the submaxillary gland, sloughed out, leaving an opening an inch in diameter, bounded by sloughing tissue, at the bottom of which could be seen necrosed bone of the lower jaw. It had been ordered that the patient be constantly watched, from a fear that hæmorrhage might occur. On the night of the 11th, nine days after the operation, the patient was discovered deluged with blood, and he died from its loss before morning, in spite of every possible effort of Dr. Pinkerton, the house surgeon, to prevent it. Even infusion of the saline solution was employed. It was found that the hæmorrhage had taken place from the site of the slough before mentioned. An abnormity of the circulation was suspected at once, and the suspicion was confirmed subsequently by a careful dissection. The facial and lingual branches of the right side arose from a common trunk at the bifurcation. The fatal hæmorrhage had been caused by sloughing of some of the starved diseased tissue into which the stump of the abnormal facial artery had passed. The vessels on the left side were not uncommon in their arrangement. The operation wounds themselves presented no appearances of an unusual character.

It is seen at once that this case presents very rare anomalies of the circulation. It is very rare indeed that the common carotid arteries do not bifurcate at or between the upper border of the thyreoid cartilage and the greater cornua of the hyoid bone. I can find no record of the lingual or facial ever having arisen from a similar point as in the foregoing case. Dr. Wyeth, in his report of one hundred and twenty-one consecutive dissections of the external carotid and its branches, found but four instances in which the lingual branch was given off at a fourth of an inch above the bifurcation, and in only one of these did it arise independently of the facial branch. In one instance it arose an eighth of an inch above the bifurcation by an independent origin. The average origin of the lingual in one hundred and twenty-one cases was 0·68 of an inch above the bifurcation. In these same dissections the facial arose at an average of 0·92 of an inch above the point of bifurcation. In no instance did it arise within less than a fourth of an inch of this point; and in each instance but one, when it arose at this distance from the bifurcation, the lingual and facial had a common trunk.

I have no doubt that, if I had tied the branch at the bifurcation, which I had supposed to be the superior thyreoid but which was in fact the common trunk of the facial and lingual, the patient would not have died from hæmorrhage. The result of this emphasizes some important facts: 1. The tying of the external carotids robbed the growth of so much of its vitality that—notwithstanding it was presumptively supplied in part by the lingual of the right side, and also by branches of the pervious stump of the facial of the same side—the diseased tissue sloughed, and involved thereby the stump of the facial itself. 2. That the branches at the bifurcation should be tied when it appears that neither the lingual nor the facial arise from the first inch and a half of the external carotid. 3. That the feasibility of simultaneous ligaturing of the external carotids for the starvation of malignant growths of the regions supplied by their branches is emphasized by the effects on the growth in this case.

The number of deaths from ligation of the external carotid alone that may be justly attributed to the operation itself is somewhat indefinite. Dr. Wyeth reports sixty-seven cases, with two deaths occurring after the operation; but, inasmuch as these two patients were still suffering at the time of death from the gunshot wounds for which the operation had been performed, it is certainly not proper to charge these deaths to the operation alone. I am able to add to this list sixteen others, and in but one of these—my own—did the subsequent death of any bear the least relation whatever to the operation itself. The amount of objection that may be raised to ligature of the external carotid by reason of the death just reported—a death clearly dependent on abnormities of the circulation not before described—is a matter that I will leave to others than myself to express. Hæmorrhage at the seat of the operation has never as yet proved fatal, and it has, as a rule, been controlled easily with simple means, such as pressure, styptics, etc. In a number of instances hæmorrhage has taken place at the seat of the disease, or of the injury for the relief of which the vessel was tied, and has required ligaturing of the common or internal carotid of the same side to control it. But in no instance can I find that the opposite external carotid has been ligatured with the same view.

The second operation was performed in Bellevue Hospital, May 10, 1885:

It pursued substantially, in all important respects, a similar course to the first, except that no hæmorrhage or sloughing occurred. The patient was discharged from the hospital in one month much improved, with instructions to report at intervals of a week. He reported at the hospital as requested for the next two months. During this time the growth showed but little tendency to increase in size. The pain and difficulty in swallowing did not return. However, he had developed in the mean time a profound cancerous cachexia, attended with emaciation and loss of strength. No evidences of internal cancerous involvement were discovered. Finally he disappeared from view suddenly, and was not again heard from by myself, even though his recorded address was visited and a thorough inquiry was made to ascertain his whereabouts.

The main objections that are raised against ligaturing the external carotid are the following: 1. The difficulty of the operation. 2. The danger of secondary hæmorrhage at the seat of the ligature. It is no doubt true that ligature of the external carotid is not so easily accomplished as that of the common trunk, but this is no reason why it should not be practiced in preference to the latter, when the comparative results of the two are considered. The linear guides of the two vessels are equally simple. The primary incisions of both are alike uncomplicated, provided the region of the external carotid is not invaded by disease. The deep guides of the external are as plain and unvarying as can be wished. The digastric muscle and the hypoglossal nerve are constant in their relations to this vessel. The lingual vein, the facial vein and its connections, are obstacles to ligaturing of the external carotid; but with care they can be displaced, or they may be divided between two ligatures and turned aside. The internal jugular vein sometimes encroaches alike on both vessels. The external carotid may be mistaken for the common, or for the internal carotid. The points of origin, size, and direction of the branches of the external should enable the distinction between it and the common trunk to be easily made. The difference in the origin, course, and depth of the two vessels, to say nothing of their differences as to branches, should discriminate between the internal and the external carotids. Finally, if a doubt exists after the ligature is passed, raise the vessel gently from its bed by means of the ligature, and study the effects of the ligature pressure on the branches of the external carotid, and on the trunk of the internal carotid. Care should be taken to not pass the ligature around both vessels at the bifurcation. This is an error to which the relations and appearances of the vessels in this situation add but little that is reassuring. However, to state the liability of the error should be to signal the danger with sufficient acuteness to prevent its occurrence. It is proper to add in this connection that if ligature of the external carotid is associated with removal of the parotid gland, it should be ligatured as near to the gland as circumstances will permit. In conclusion, I respectfully submit the following propositions:

1. Ligature of the external carotid artery, together with independent ligature of the branches arising from the first inch of its course, is a safe and commendable operation.

2. When the facial and lingual arteries do not arise singly, or by a common trunk from the first inch of the course of the external carotid, the branches arising at the point of bifurcation of the common carotid should be tied.

3. Simultaneous ligature of both external carotids is a rational preparatory measure for operations involving the parts supplied by their branches, when dangerous hæmorrhage is feared. If the pharynx is involved, the ascending pharyngeal branches should be ligatured also.

4. Simultaneous ligature is advisable to diminish the rapidity of the development of extensive malignant growths when they are nourished by the branches of the external carotids.

5. Ligature of one or both of the external carotids for the cure of aneurysmal formations of the branches of the same is not feasible as an independent curative measure.

6. Ligature of the common carotid should not be done for the cure or for the arrest of morbid conditions involving the external carotid or its branches, except as a final resort.

Dr. SANDS remarked that he had listened with interest to the paper just read, but that he could not agree with some of the conclusions arrived at by the author. It was doubtless well to reiterate the fact that, on the score of both safety and efficiency, ligature of the external carotid artery should often be performed in preference to that of the common trunk. But the principle advanced of resorting to ligature of the external carotid as a preliminary step to the excision of tumors had long been regarded as unsound. The formal ligature of the external carotid, although quite practicable, was not an easy operation, and ought not to be performed unnecessarily. Experience had proved that large tumors of the face, and especially those situated in the parotid region, could be successfully removed without adopting the precaution referred to. Moreover, it had been shown that the preliminary ligature of the principal trunk did not always have the desired effect of preventing hæmorrhage, which was maintained by the anastomotic branches. The speaker also dissented from the proposal made by the author of the paper to tie the external carotid with the view of preventing or retarding the progress of a malignant growth. The anastomotic channels were so numerous and free that little or no benefit could be expected from such an operation, and he believed that the uselessness of this practice had been fully demonstrated.

Dr. WEIR agreed with Dr. Sands in his last criticism. Practically, he thought that it must very rarely happen that the surgeon was obliged to tie the external carotid before excising the jaw. He had never thought of doing this in cases of maxillary tumor, because it was possible to ligate vessels as they were exposed, or the facial artery might be compressed by means of a clamp introduced into the mouth. The gush of blood that followed the first incision seemed very large at first, but the hæmorrhage was soon checked.

Dr. STIMSON testified to the fact that in one of the cases reported by the reader there had been a rapid diminution in the size of the growth, and also in the amount of discharge, when the lingual artery had not been tied, although the tumor had been within the mouth. Hence the diminution of a growth did not seem to be dependent on the diminution of the blood-supply.

Dr. BRYANT said that he was aware that ligation of the artery for the arrest of morbid growths was not always successful. There were many cases on record in which the hæmorrhage attending excision of the jaw had been diminished by preliminary ligation of the external carotid. In his own case the disease had rapidly recurred, and the use of the knife did not seem to be justifiable. After ligation of the arteries, whether less blood was supplied to it or not, the vascular morbid growth had become anæmic, sloughing had occurred on the right side, and the patient had recovered the ability to swallow and articulate. One tumor had been kept under observation for two months, during which time it had not increased in size. There was no reason, he added, why, if we could prevent blood from going to a part by tying the artery, we could not delay the growth of a tumor by diverting the blood from it.

Dr. Sands called attention to the fact that there was no true analogy between the operation of tying an artery for the cure of an aneurysm and the same procedure as practiced for the arrest of a malignant growth. In the former case the object aimed at was to prevent, or retard, the current of blood in the aneurysmal sac, and thereby to accomplish by coagulation a complete and permanent cure. But the tying of an artery in the case of a growing tumor could at best be regarded as a palliative measure, and its value in this respect was certainly problematical. We should not confound cause with effect. The growth of a tumor was not determined to any extent by its supply of blood. On the contrary, the supply of the latter was generally equal to the demand, the vessels enlarging to keep pace with the rate of growth. When the anastomosis was free, ligature of the main vessel might have very little influence in diminishing the vascularity of the parts to which its branches were distributed. He had once noticed, after tying the common carotid, that pulsation could be felt six hours later in the temporal artery on the side of the operation. He referred to a case cited by Erichsen in which both common carotids and one vertebral artery had been gradually obliterated from disease and operation combined, yet the nutrition of the brain was maintained by the remaining vertebral. Opinions expressed in regard to the retardation of a growth caused by the ligation of an artery were usually so vague as hardly to be within the limits of scientific inquiry. The utility of the practice was evidently not demonstrated in the case of Dr. Bryant's patients, one of whom had died from hæmorrhage after the operation, while the other had continued to be unrelieved.

Dr. Stimson desired to place on record the fact that he had tied the external carotid several years before, in order to arrest the growth of epithelioma of the mouth. The patient had lived for several weeks after the operation, but there had been no evidence that any benefit had resulted from it.

Case of Parovarian Cyst that developed Extra-peritoneally.—Dr. Gerster exhibited a specimen and related the following facts concerning the case: The patient from whom it had been removed was a young married woman of twenty-one, who became pregnant about four months after marriage, and had an abortion. Examination at that time revealed a sessile tumor occupying the right iliac fossa. The patient was seen by a gynæcologist, who advised waiting until a pedicle should form. The speaker examined the lady in March, and found that the cyst in question was of about the size of a child's head and filled the right iliac fossa; it was immovable, and seemed to be generally adherent. On the 6th of April he performed excision of the tumor. On dividing the tissues in the median line down to the usual situation of the peritonæum, that membrane could not be found, but the cyst was exposed and tapped, a clear, yellowish fluid being withdrawn. The sac was then enucleated with the fingers, closer adhesions being successively ligated and divided, until the pedicle was reached deep within the pelvis, near the right cornu of the normal uterus. The cyst was of the parovarian variety, and had grown outward between the layers of the broad ligament until it reached the parietal peritonæum, which it had dissected up from the iliac fossa, following the course of an extra-peritoneal abscess. A piece of peritonæum about one third of a square foot in area was exposed. Two drainage-tubes were introduced, and the wound was closed with plate-sutures. On the day following the operation the patient, who had reacted well, suddenly developed tympanites, while her pulse became very rapid and her respiration rose to forty; in fact, she appeared to be in a condition of shock similar to that observed after severe blows upon the abdomen. The tympanites was spontaneously relieved on the fourth day, her pulse improved under stimulation by enemata of brandy and hot water, and she subsequently made a good recovery, her temperature falling from 101·7° to normal. Bloody urine and some uterine flow were observed for a few days. The patient was out of bed on the thirteenth day. The interesting feature in the case was the sudden development on the second day of symptoms of shock, although there certainly could not have been what is commonly called shock at such a late period; neither could peritonitis have appeared and disappeared so rapidly. There were no evidences of septic trouble, no vomiting or abdominal tenderness, but the main disturbance seemed to be in the circulation. The speaker suggested as a probable explanation the occurrence of a localized coagulation necrosis in the widely detached peritonæum, leading to hyperæmia of the contiguous serous covering of the intestine, which resulted in paralysis of the gut with consequent tympanites. There might have been an attempt at the formation of adhesions, because when the patient's bowels were moved on the fifth day by a saline cathartic she said that "something seemed to give way."

Dr. Sands asked if the symptoms might not have been due in part to the pressure of the bandage, which became tightened in consequence of the tympanites.

Dr. Gerster said that the dressings were quite loose, and that, moreover, there was no change after they had been removed.

Dr. Weir asked if all the sutures held.

Dr. Gerster replied in the affirmative. Four of them were removed on the fifth day, together with the drainage-tubes.

Dr. Weir thought that some of the sutures might have given way. He had noticed that silver-wire sutures occasionally gave way soon after the operation, perhaps in consequence of change in the metal.

Dr. Briddon could not believe that necrosis of the peritonæum could have occurred and have been so quickly arrested.

Dr. Gerster explained that the existence of this condition seemed quite probable in view of the fact that such a large piece of peritonæum had been detached. Dead tissue within the abdominal cavity might be absorbed, provided it remained aseptic, as was frequently noticed after the removal of pieces of omentum. The nerves of the peritonæum, which were closely related to those of the solar plexus, might be so affected by these aseptic necrotic changes that serious symptoms might be produced. In reply to a question by Dr. Briddon, the speaker said that this nerve-irritation would have accounted for the symptoms presented in the case under discussion.

Dr. Stimson could hardly see how such a transient necrotic process could exist.

Dr. Briddon thought that the fluid removed from the cyst presented an appearance different from that usually observed in parovarian cysts.

NEW YORK CLINICAL SOCIETY.

Meeting of March 25, 1887.

(Concluded from page 529.)

On the Diagnosis of Hypertrophied Prostate and the Treatment of its Effects.—Dr. Bangs read a paper with this title. [See page 533.]

Dr. J. W. Wright had often met with cases which had been injudiciously treated with sounds. It would seem that the general practitioner often failed to recognize the fact that there were enlargements of the prostate through which an ordinary catheter could not pass. The catheter must have a much larger curve than the usual one. The following little device he had often found useful: the soft catheter, bent into proper curve, was passed with the stylet in it; when it had entered as far as it would go, the stylet was withdrawn for a short distance; the point of the catheter was in this way brought up and made to enter the bladder. He agreed with the reader of the paper that a weak solution of common salt answered best for washing out the bladder in a large majority of cases. He had long abandoned the use of lead, zinc, and other astringent solutions.

Dr. J. H. Emerson would differ with the reader of the paper as to the advisability of giving diluents and alkalines in urinary affections. He considered them of benefit as rendering a super-acid and irritating urine innocuous, and thus making it more tolerable to the bladder. He would like to ask what form of catheter Dr. Bangs advised his patients to use.

Dr. Bangs, in reply, stated that he had used various kinds of catheters, but was inclined to prefer Jacques's soft silk catheters. He had found, however, that patients soon learned to select their own catheters.

The President considered the alkaline treatment beneficial in cases of stone or suspected stone, and in the lithæmic state. But, when the urine was normal, he agreed with the former speakers that it was better not to administer alkalines and diluents.

Enormous Scrotal Hernia.—The President showed a patient, aged fifty years, with an immense scrotal hernia, forming a mass which reached almost to the knees, and measuring twelve inches long and twelve inches across. The patient had been able to reduce the hernia until a year ago. The penis was seen retracted at the upper and left side of the mass, and the testicles were felt in front of it. Though most of the intestines must have passed into the tumor, yet the abdomen was not much retracted. He had kept the patient on his back for a few days, and intended doing so for a few days longer before attempting any operative interference. The reduction would require to be gradual, as there was considerable danger either from shock or sudden pressure upon the blood-vessels of the abdominal viscera in too rapid and abrupt reduction.

Dr. Gibney had seen several hernias of that size, which the affected individuals carried about in a form of hammock. He did not remember ever having seen any of such dimensions that were reducible.

Dr. Wright remarked that these cases presented great difficulties in reduction, and that he had known of several instances of deaths occurring during the attempt. The dangers arose not so much from shock and sudden pressure upon the abdominal blood-vessels as from the adhesions the mass was likely to form. These would have to be torn through, and might give rise to serious and fatal hæmorrhage.

Some Peculiar Epileptic Cases.—Dr. M. A. Starr related the following cases:

Case I.—A gentleman in middle life, of rather nervous disposition and mentally an active man, was attacked at the age of forty-two with *grand mal.* During the three following years he had several general convulsions, each of which was followed by an attack of acute mania lasting for about three hours. The patient then passed into a deep sleep, from which he awoke without any memory of what had occurred. Such maniacal attacks were not very uncommon, and occasionally it was the case that the attack of mania occurred in place of a convulsion, instead of succeeding it. During the past year an interesting feature had developed in the case. While the patient was talking, reading, walking, or at his professional work, he would suddenly cease what he was about, and his face would assume a broad grin for about ten seconds; then he would look about in an absent-minded way, and immediately resume his occupation. At such times there was no apparent loss of consciousness. He never staggered, if standing, nor let anything drop which he was holding, and had no recollection of anything unusual having occurred. These attacks seemed to be of the nature of *petit mal.* The severe attacks had been brought under control by the bromides, but the minor attacks remained unaffected by treatment.

Case II.—A young man of fair intelligence and good physique was seized with a convulsion five years after an injury to his head. Since that time he had had numerous attacks of *grand mal.* For six months in 1884 these were arrested by the bromides. At the expiration of these six months, on January 11, 1885, without any evidence of having had a convulsion, and while on an errand for his employer, the first part of which he faithfully carried out, he was in a different quarter of the city from where he had been sent, and was arrested for using abusive language and for an attempt at assault. It was soon learned that he was out of his head, and he was sent to a hospital, where, after an hour's sleep, he awoke without any recollection of his strange conduct.

The case would have to be classified among cases of double consciousness. The sequence and connection of the acts showed three states of consciousness following one another: First, the normal state; second, the abnormal state; third, the normal state. In the second (abnormal) state the patient remembered what had taken place in the first state, but in the third state he had no memory of what had happened in the second state, while he had a recollection of events occurring in the first state.

Case III.—A small messenger boy gave the following history, which had all the appearance of being genuine: Though born and brought up in the city, and knowing intimately every street and quarter of it, on two occasions he had become quite confused while on errands to deliver messages, and it had seemed to him as if he were in a strange city, and he did not know in which direction to turn. There was no history of loss of consciousness or of convulsions. It must be supposed that on each of these occasions the boy had had a peculiar attack of *petit mal.*

Case IV.—A teacher of mathematics of considerable eminence was subject to a peculiar phenomenon which annoyed him greatly. On several occasions, which had recently been increasing in frequency, he had found his attention arrested, no matter what he was doing, by a strange and unfamiliar set of ideas which suddenly came up to his mind. He was obliged to think of them at once, and to keep his attention upon them as long as it took him to walk two hundred feet, when they would as suddenly fade out of his consciousness, leaving no memory of their existence. There was no loss of consciousness. It appeared to the patient that it was always the same idea that occurred, though he could not remember its exact nature. By taking a few whiffs of nitrite of amyl he could avert an impending attack. The attack would indicate a powerful involuntary cerebral action of such intensity as to command attention, and so completely unrelated to the normal train of thought as to leave behind it no associations in memory by means of which it could be reached by consciousness.

These cases were brought together because they had the common feature of a peculiar state of consciousness during an attack that might be called *petit mal.* If the whole epileptic phenomena could be regarded as evidence of sudden involuntary nervous discharges from the cortex, these cases might be looked upon as examples of discharge from the highest cerebral centers. As to the treatment of these affections, it was stated that they required the usual anti-epileptic remedies, but that they seemed to be less readily and promptly affected by the use of the bromides than the more ordinary forms.

Dr. Gibney asked for what length of time it would be possible for an epileptic, subject to the phenomena described, to stray away from home, and be unable to find his way back.

Dr. Starr replied that such conditions had been known to last as long as eleven days. In double consciousness there was always a history of epilepsy.

Stab Wound of the Kidney.—Dr. Frank Hartley presented a patient, and related the following history :

S. E., aged twenty-five, was stabbed on September 13th, at 1.30 A. M., in the right side, with a large sailor's knife. Three hours later he was admitted into Bellevue Hospital. He was then suffering from severe shock, the pulse was rapid and feeble, and the surface was cold. He was conscious and suffering a great deal of pain in the right side. There was evidence of previous intoxication. On removing the dressing, which was found soaked with blood, a wound an inch and a half long was disclosed on the right side, between the ninth and tenth ribs, midway between the mammary and axillary lines, from which blood flowed continuously. The wound and surrounding parts were immediately disinfected by the house surgeon, Dr. Johnston, with bichloride solution (1–1,000).

At 4 A. M., the patient having somewhat improved, he was anæsthetized, and the wound was enlarged sufficiently to admit the hand, by an incision carried downward and slightly forward. The ascending and part of the transverse colon could now be seen. The hand was passed through the wound and entered the peritoneal cavity, where it distinctly felt the liver, the gall-bladder, and the transverse and ascending colon, all uninjured. On continued examination with the hand, a cut was discovered in the right kidney which was about two inches and a half long, running from its outer to its inner border, and passing completely through its substance. Three fingers were passed into this wound, and the calices were distinctly felt along the inner border of the kidney; one of the calices appeared to be completely severed. On account of the profuse hæmorrhage, the severe shock, and the opening into the peritoneal cavity, it was thought advisable not to perform nephrotomy, which would have required much time, have increased the already existing shock, and doubtless have favored a fatal termination. It was therefore considered more prudent to control the hæmorrhage, provide a free exit for the subsequent discharge of urine, and shut off the peritoneal cavity from infection. Accordingly, the wound was carefully washed out with a warm boro-salicylic solution, two drainage-tubes were inserted at the upper and lower angles of the wound, a third drainage-tube was passed directly into the kidney to its inner border, and all were fastened to the skin with catgut sutures. The patient was then placed upon his side and the wound again thoroughly cleansed with the same solution. The peritoneal cavity was closed off from the retro-peritoneal cavity as completely as possible by packing iodoform gauze into the wound and allowing the ends of the gauze to hang outside. When it was thought certain that this was accomplished, the wound itself was packed in the same way down to the kidney, and was partially closed with catgut suture. A dressing of iodoform and bichloride was applied, and the patient placed on his right side to insure perfect drainage. Hot-water bottles were applied and a small quantity of whisky was administered.

On the 13th, at 9 A. M., the patient had recovered to a certain extent from the shock. The skin felt warm, the pulse was 100, the temperature 100·4° F., and the respiration 24. He was conscious and was vomiting a great deal. The urine passed was bloody, and, microscopically, showed blood corpuscles and blood casts, which were evidently from the ureters. Rectal enemata containing milk, pepsin, whisky, and opium were given. The dressing was renewed at noon, as it was soaked with bloody serum.

On the 14th he had passed a fairly comfortable night, and his general condition was much improved. He retained milk by the stomach, but complained of pain in the epigastric region, which was increased by pressure. Temperature, A. M., 102·2°; P. M., 102·6°. Pulse, 120. Respiration, 20.

On the 15th the temperature was: A. M., 102°; P. M., 101·8°. Pulse, 120. Respiration, 20. The dressing was changed. The wound looked healthy, but there was some redness of the skin about it; no discharge of pus.

On the 16th and 17th the temperature was not above 101°. The pulse was 118, the respiration 20. Urea was found in the discharge from the wound. The dressing was removed. The urine was acid and free from blood. Its specific gravity was 1·026, and it contained no albumin.

From the 18th to the 28th the dressing was renewed daily. The presence of an ammoniacal odor was noted.

On March 8th it was noted that the temperature had been normal since February 17th, and the pulse was good. The dressing had been renewed every other day. The two tubes were removed from the wound, also the gauze.

On the 15th the wound was entirely healed, except a sinus leading to the kidney, through which a small amount of urine escaped. He was discharged from the hospital, and asked to return twice weekly.

The case showed how much could be expected from conservative treatment in cases of wounds of the abdominal viscera. It was reported as an evidence of the fact that in all cases we ought to be guided in our choice of the method of treatment by the condition of the patient at the time of the injury, the amount of hæmorrhage, and the chance of septic peritonitis. If the resulting sinus persisted, and the patient was willing, the kidney could be removed with a much better chance of success than it could have been done on the night of the injury. [The patient was seen by Dr. Hartley on the 6th of April, and the fistula had then entirely closed.]

Dr. Coe said that the case reminded him of one in which a pistol-ball had entered the abdomen at about the same site. As the ball could not be detected on slight probing, it was deemed prudent to desist from any further attempt at finding it. But a counter-opening was made in the back, to admit of free drainage. The wounded person made a good recovery.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(*Concluded from page 530.*)

Seven Cases of Buccal Tuberculosis, with Remarks upon Tubercular Ulceration of the Tongue.—A paper on this subject was read by Dr. D. B. Delavan. [See page 536.]

Dr. E. L. Shurly: I regard the paper just read as a valuable contribution to the subject. Primary tuberculosis attacking the palatine arches is frequently not recognized, and it may be mistaken for syphilis. I do not know how a diagnosis can be made from the ordinary appearances, and I do not feel at all sure that the bacillus can be regarded as an absolute indication that the case is one of tuberculosis. I will briefly refer to a case: A man, who was a smoker, presented himself with tuberculous ulcers of the mouth, on the cheek, and tongue. The bacillus was demonstrated to be present. The patient recovered and is well to-day. There was no evidence of a pulmonary lesion. In a case referred to me by a colleague, that of a woman suffering with stomatitis materna, I found the *Bacillus tuberculosis*. The condition of the woman was favorable with the exception of the tubercle; she subsequently recovered, and has become the mother of children since. It was not a case of buccal tuberculosis.

I believe that the tongue should not be excised, but that other means should be used to destroy the parts affected. The difficulty is in distinguishing these cases from ordinary stomatitis, which may take on a very malignant appearance as a result of irritation, but from which the patient will recover.

Dr. J. Solis-Cohen: I have never seen a case of primary tuberculosis of the tongue, or indeed of the mouth, so far as I know. In one case under my care the operation of removal of a portion of the tongue was undertaken, not for the relief of tuberculosis, but because it was supposed to be a case of epithelioma. I recall, too, a case, referred to me some years ago by Dr. Glasgow, in which I removed a tuberculous part of the tongue with the galvano-cautery. Until very recently I have depended greatly upon one sign in making a differential diagnosis of buccal tuberculosis, and that is intense pain on deglutition. Lately I have seen a case from the outset, in the person of a medical student with tuberculosis of the lungs and larynx, in whom I found an ulcer of the mouth, with elevated edges and surface covered with pus, resembling a tuberculous ulcer in its general aspect. The detritus scraped from the ulcer was examined by Dr. Griffiths and found to contain no tubercular bacilli. In this case the absence of pain was a marked feature. In another case I found sugar in the urine, and concluded that the ulceration was present in a case of diabetic phthisis and not in a case of tuberculous phthisis. In this case all treatment, including that by lactic-acid applications, was unavailing, and the ulceration steadily progressed. The patient is still living, but is not far from his end.

Dr. J. O. Roe: I have not seen a case of primary tuberculosis of the tongue, but I have had two cases of primary tuberculosis of the pharynx. One occurred in the person of a lady, thirty-five years of age, who had had trouble with her throat for about six months before I saw her, and had suffered a great deal. She was relieved for a time by counter-irritation and anodynes, but the pain on deglutition returned. I examined her throat, and found pale cicatricial tissue at the base of the tongue, passing down upon the epiglottis, and upward from this into the pharynx on both sides. The patient afterward died. The larynx was found entirely free from ulcers in this case, which is rather exceptional. The second case was that of a gentleman, about forty-five years of age, who had true tuberculous ulceration affecting the pillars of the fauces. He did not have tubercular ulceration of the larynx at that time; but there was infiltration of the arytænoid cartilages, with some difficulty in breathing. Strong applications could not be borne. I applied the iodide of amyl to the throat with very good result; the patient improved steadily, and is now well, weighing two hundred and twenty-five pounds.

Dr. G. W. Major: At a recent meeting of a medical society in Montreal, a case of tubercular disease of the tongue was shown, and I was asked to examine the larynx, where I found marked ulceration. The patient was much relieved by local applications.

Miscellany.

A Correction.—Dr. F. B. Stephenson, whose article on "Arterio-capillary Sclerosis" appeared in our issue for November 20, 1886, informs us that the expression "bifurcation of the abdominal aorta," contained in the article, was an error, and that it should have been *ramifications of the abdominal aorta.*

The "Medical and Surgical Reporter" and the "Quarterly Compendium of Medical Science."—Dr. Daniel G. Brinton, of Philadelphia, who has for a number of years been the editor and publisher of these periodicals, announces that he severed his connection with them on the 1st of May. He adds that he felt obliged to take this step by the fact that the owners of the journals were opposed to certain changes in the "Reporter" which he considered necessary improvements justly due to its subscribers and advertisers. He intimates that, early in the autumn, he will probably announce his connection with another journal.

The Health of Michigan.—According to the returns made to the State Board of Health during the four weeks ending April 30th, diphtheria was reported from twenty-five places, scarlet fever from thirty-nine, typhoid fever from eight, and measles from thirty-six. Except measles, there was a decided decrease of the number of places at which these diseases were prevalent, and measles was reported from only one more place than during the preceding month.

The Health of Boston.—During the week ending Saturday, May 7th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 18 cases and 7 deaths; scarlet fever, 24 cases and 2 deaths; typhoid fever, 10 cases and 5 deaths; measles, 74 cases and 1 death. There were also 34 deaths from consumption, 24 from pneumonia, 1 from whooping-cough, 12 from heart disease, 14 from bronchitis, and 7 from marasmus. The total number of deaths was 193, against 183 in the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending May 5th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending April 16th corresponded to an annual rate of 20·9 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Brighton, viz., 10·6, and the highest in Huddersfield, viz., 35·3 in a thousand. One death from small-pox were registered in Blackburn.

London.—One thousand five hundred and fifty-eight deaths were registered during the week ending April 16th, including 1 from small-pox, 81 from measles, 11 from scarlet fever, 21 from diphtheria, 53 from whooping-cough, 7 from enteric fever, and 4 from diarrhœa and dysentery. There were 363 deaths from diseases of the respiratory organs. Different forms of violence caused 72 deaths. The deaths from all causes corresponded to an annual rate of 19·3 in a thousand. In greater London, 1,932 deaths were registered, corresponding to an annual rate of 18·6 in a thousand of the population. In the outer ring, 34 deaths from measles and 13 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending April 16th, in the sixteen principal town districts of Ireland, was 28·9 in a thousand of the population. The lowest rate was recorded in Kilkenny, viz., 12·7, and the highest in Lisburn, viz., 33·8 in a thousand.

Dublin.—Two hundred and thirty-one deaths were registered during the week ending April 16th, including 7 from measles, 4 from scarlet fever, 2 from typhus fever, 4 from whooping-cough, 2 from enteric fever, and 1 from diarrhœa. Diseases of the respiratory organs caused 45 deaths. In thirty-seven instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 34·1 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending April 16th was 23·7 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 13, and the highest in Aberdeen, viz., 33·7 in a thousand. The aggregate number of deaths registered from all causes was 593, including 28 from measles, 10 from scarlet fever, 4 from diphtheria, 36 from whooping-cough, and 7 from diarrhœa.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,763,937, during the week ending April 2d, corresponded to an annual rate of 25·1 in a thousand. The lowest rate was recorded in Wiesbaden, viz., 11·8, and the highest in Augsburg, viz., 44·8 in a thousand.

Catania.—Eight cases of cholera and 3 deaths from that disease were registered during the week ending March 26th. The consul states that "the wells of the city (with few exceptions) have been closed by official order. Water has been brought to the city from the slopes of Etna in closed conduits. As soon as this water came into use the cholera began to disappear. During the past four days no cases or deaths have been reported. It is hoped that the malady has terminated. Application has been made to the government to have quarantine removed."

Pesth.—The following items from the "Hamburger Nachrichten" and "North German Allgemeine Zeitung" have been received from the United States consul at Hamburg:

"In consequence of the suspicious death which yesterday occurred at Pesth, bacteriological examinations have been made, which have shown that the person in question really did die of Asiatic cholera. Yesterday a fresh case is said to have been discovered."

"Constantinople, *March 29th.*—In consequence of cases of cholera at Pesth, a quarantine of five days has been ordered for products coming from the Danube and the Black Sea from the mouth of the Soolina to Boorghas."

Kingston, Jamaica.—One hundred and thirty-five deaths were registered during the month of March, 1887, including 20 from small-pox.

Havana.—Ten deaths from yellow fever and 1 from small-pox were registered during the two weeks ending April 23d.

San Juan, Porto Rico.—The United States consul, under date of March 10th, states that "the governor-general of this island has decreed and declared suspicious vessels arriving from the United States of North America and those from all the Windward Islands, remaining subject to the quarantine regulations. The quarantine will be divided—*in rigorosus* and of *observation.* The first will have to be passed in the Lazaretto of 'Ila de Cabras,' exacting the discharge of cargo and landing of passengers, only excepting such of the crew as are necessary for the care of the vessel. Respecting that 'of the quarantine of *observation,*' the quarantine will be carried into effect at the port of this capital, 'Ponce' and 'Mayaguez,' and will be of seventy-two hours, consisting (the sanitary measures) in non-communication and ventilation, fumigation not being required; the discharge of cargo and landing of passengers only allowed when so ordered by the medical board. As the 'decree' in reference to the locality for undergoing quarantine is very stringent, and one, moreover, that would cause great delay and inconvenience, also expense, I have this day petitioned the acting governor-general to use his best endeavors to bring about an amelioration of the same."

Gibraltar.—One hundred and twelve cases of measles were registered during the week ending April 10th.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Calcutta	March 19.	433,219	202	46	....	....	....	....	....	....
Acapulco	April 17.	4,500	4	..	1	....	....	....	....	....
Paris	April 16.	2,260,045	1,267	..	....	15	....	36	1	33
Havre	April 16.	112,074	58	.	....	1	....	1	....	....
Bordeaux	April 16.	240,582	123	..	....	....	....	3	....	....
Reims	April 16.	97,903	53	..	....	....	....	...	3	....
Genoa	April 16.	179,374	127	..	....	5	....	2	....	1
Palermo	April 16.	250,000	110	..	....	....	....	3	9	2
Barmen	April 9.	108,000	44	..	....	....	3	....	....	1
Mayence	April 2.	65,701	36	..	....	....	1	...	....	1
Leipsic	April 16.	170,000	70	..	....	....	....	....	....	4
Munich	April 9.	269,000	156	..	....	....	...	1	1	6
Amsterdam	April 9.	378,690	169	..	....	....	....	....	2	5
Copenhagen	April 5.	280,000	122	..	....	....	....	1	1	3
Glasgow	April 16.	545,678	275	..	....	....	....	....	3	3
Belfast	April 9.	224,422	104	..	....	....	1	1	....	2
Pernambuco	April 5.	111,000	50	..	....	....	2	....	....	....
Toronto	April 23.	120,000	32	..	....	....	....	3	....	4

THERAPEUTICAL NOTES.

The Treatment of Habitual Constipation in Children.—At a recent meeting of the Harveian Society, of London (the proceedings of which are reported in the "Lancet"), Dr. Day read a paper on this subject. Most cases, he said, were due to a sluggish state of the muscular coat of the intestine, to diminished secretion from the mucous membrane or the liver, or to improper feeding. Bilious and plethoric children required a daily evacuation, or their health would suffer, while the neurotic might without inconvenience have none for days together. Prolonged constipation was apt to lead to disease of the cæcum, chronic inflammation and thickening of the intestinal walls, dilatation, and occasionally perforation. In the treatment, it was important to get the child to make a voluntary effort every morning. Enemata were of value when the colon was torpid and the rectum blocked. Strychnine and belladonna were recommended to impart tone to the bowels, relieve spasm, and lessen flatulence. In some cases nitric acid was of value, also, in cases depending on a deficient secretion of bile, an occasional mercurial purgative. If, however, the latter were repeated too often, it was apt to cause lassitude, pallor of the face, softness of the muscles, and irritability of temper, and its use was dangerous in scrofulous and rickety children. In children of a full habit, salines were sometimes useful. Change of air, massage, and attention to the diet were of importance.

Benzoin in the Treatment of Whooping-cough.—Michael ("Arch. f. Kinderheilk."; "Ctrlbl. f. klin. Med.") has analyzed several hundred cases of whooping-cough, and concludes: 1. That it is a reflex neurosis of the nose, distinguished from other nasal neuroses by the fact that the irritability of the nasal mucous membrane is awakened only by the specific poison of whooping-cough. 2. In a large percentage of cases it is possible to mitigate and shorten the course of the disease by insufflations into the nose, the most efficient medicament for the purpose being powdered benzoin. 3. The fact that the treatment is absolutely fruitless in about twenty-five per cent. of the cases seems partly owing to adenoid vegetations in the neighborhood. 4. Relapses readily occur after wetting the feet or an unfavorable change in the weather, also after discontinuing the treatment in cases that have yielded rapidly. 5. A prognosis can be based with great probability on the effect of the first two or three insufflations.

Antipyrine in the Treatment of Migraine.—Ungar, of Bonn ("Ztschr. f. Therap."; "Rev. gén. de clin. et de thérap."), has been led to use antipyrine in migraine on account of the analogy between its effects and those of sodium salicylate. According to his experience and that of several of his colleagues, it seems to act more certainly and more rapidly than any other remedies thus far employed, especially if given at the onset of the attack. Even at the height of the paroxysm it diminishes its intensity in almost all cases. Its occasional failure the author has not been able to explain. It is rarely necessary to give more than fifteen grains.

The Solubility and Alkaloidal Strength of Preparations of Quinine.—According to Boymond ("Bull. gén. de thérap."), various preparations may be rated as follows:

	Percentage of alkaloid.	No. of parts of water required to dissolve one part of the drug.
Hydrate	85·72	1670·00
Acetate	84·37	Slightly soluble.
Basic hydrochloride	81·71	21·40
Basic lactate	78·26	10·29
Basic hydrobromide	76·60	45·02
Basic valerianate	76·06	33·70
Basic sulphate	74·31	581·00
Neutral sulphovinate	71·20	3·30
Arsenate	69·38	Slightly soluble.
Basic salicylate	68·79	863·00
Citrate	67·08	826·00
Neutral hydrobromide	60·67	6·33
Neutral sulphate (bisulphate)	59·12	8·81
Ferrohydrocyanide	56·25	Slightly soluble.
Acid hydriodide	55·95	" "
Tannate	22·60	800·00
Citrate of iron and quinine	Variable.	Variable.
Crude (brown) quinine	"	"

Glycerin Lemonade.—The "Revue générale de clinique et de thérapeutique" attributes the following formula to Semmola:

Pure glycerin	150 parts;
Citric acid	1 part;
Water	300 parts.

About one ounce of this solution is to be taken, in a glass of water, every hour. Thus administered, even in large quantities, glycerin does not cause gastro-intestinal disturbance.

An Injection for Gonorrhœa.—The "Union médicale" attributes the following formula to Barré:

Tannic acid	3 parts;
Solution of subacetate of lead	6 "
Tincture of catechu	12 "
Sydenham's laudanum*	3 "
Rose water	100 "
Distilled water	300 "

To be used night and morning, each injection being retained for three minutes.

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* Made by macerating 64 parts of opium, 32 of saffron, 4 of cinnamon, and 4 of cloves in 500 of Malaga wine for fifteen days at a gentle heat, expressing, and filtering.

Original Communications.

ON THE ULTIMATE RESULTS OF THE MECHANICAL TREATMENT OF HIP-JOINT DISEASE.

An Analysis of Fifty-one Cases occurring in the Service of the New York Orthopædic Dispensary and Hospital.[*]

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The attention of the medical profession of late years has been largely directed to the operative treatment of hip-joint disease, and the results obtained by excision of the head of the femur have been quite freely discussed. The more conservative method of mechanical treatment has not, during this period, received the attention it deserves, and it is the object of this paper to present for the consideration of the profession certain facts which have been developed by a thorough and painstaking analysis of the results which have been obtained by the treatment pursued in the New York Orthopædic Dispensary and Hospital.

The cases upon which the following report is made are drawn from the dispensary class only; private cases and those from hospital or other sources, as well as those in which excisions have been performed, being eliminated from the list, the principal idea of the writers being to arrive at the *ultimate result* of the strictly mechanical treatment of the disease, and to present an analysis only of those in which the patients were the recipients of dispensary treatment.

Those who are familiar with the difficulties attending the medical or surgical control of an ordinary dispensary patient will at once appreciate the great difficulty of securing efficient home co-operation among the tenement-house class during the prolonged treatment of a typically chronic disease. And this is especially true when the treatment covers years, and when the successful issue of a case depends upon the intelligent use of an apparatus which requires constant attention. It is, however, under these circumstances that the treatment of the cases about to be reported was conducted, and some allowance as to the time consumed, etc., should be made. That the results are better in private practice, and sooner attained, no one, I think, will deny. It affords the senior writer of this paper great pleasure to record the fact, however, that the results reported were obtained under all the difficulties attending a dispensary practice among the poor, and he wishes, in this connection, to extend his thanks to the trustees of the institution for their generous co-operation and sympathy.

Indeed, it is among the objects of this paper to demonstrate that it is not only possible, but comparatively easy, to treat such a serious condition as hip-joint disease successfully, and even satisfactorily, with proper dispensary facilities. The latter include, of course, a well-equipped shop and a corps of mechanics to make, and to repair or alter, under the direction of a trained orthopædic surgeon, the necessary appliances, and the co-operation of one or more out-door visiting surgeons. Without these aids, we feel assured the results obtained would not have been so satisfactory as those we have to report. Another object of this paper is to show that it is the exceptional case, that of the homeless child or the child with utterly indifferent or very poor parents, which requires *prolonged* hospital care in hip-joint disease. What the senior writer has frequently called "home treatment" enters largely into orthopædic dispensary work, and this means that an intelligent parent or an interested relative can, under proper instruction, carry out at home, in the great majority of cases, the directions of the surgeon, with occasional or periodical professional supervision.

There are, however, many poor children whose surroundings make hospital care necessary, as has been proved many times in our experience. But a well-equipped orthopædic dispensary, if properly conducted, can do the work of several large hospitals at a far less cost.

In the spring of 1886 the senior author of this paper requested Dr. Robert W. Lovett, of Boston, then an assistant surgeon of the institution, to personally investigate and to carefully record the *ultimate results* obtained by the conservative mechanical treatment of hip-joint disease practiced in the New York Orthopædic Dispensary and Hospital.

In order to arrive at positive and *ultimate* results, the following bases of investigation were formulated:

I. No case was to be considered which had not been under the care of the institution from the time of its entry to its final discharge.

II. No case was to be considered which had not been formally entered as "discharged cured" after a final examination.

III. No case was to be considered which had not been "discharged cured" at least four years prior to the investigation.

IV. No cases were to be considered except those which presented unmistakable signs of the disease at the time of the first examination.

V. None were to be considered which had not been at least two years under treatment.

VI. None were to be considered which were not seen or examined after the investigation was commenced.[*]

VII. All cases coming within these exclusive conditions were to be classified and reported.

While these exclusive conditions eliminate very many interesting and valuable cases which might have been legitimately added to the list, the writers of this paper believed that the facts brought out under the conditions named would have a positive value, and subject the methods pursued to more than an ordinary test. A much more brilliant, but perhaps not so scientifically accurate, statement might be made if the analysis covered *all* of the many other cases of hip-joint disease in which the patients had been discharged as cured, or if the time had been made six months instead of four years. It seems to the writers that the above-mentioned conditions must satisfy even the most exacting critic.

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[*] Read before the New York Academy of Medicine, May 5, 1887.

[*] In two instances the final record was made in the dispensary just before this investigation was commenced.

In order to further demonstrate the exclusive conditions under which this report is made and to arrive at approximate conclusions as to the percentage of deaths, we may state that for five of the years included in the seven from which the cases here reported are drawn—in other words, from 1877 to 1882—778 patients with hip-joint disease were treated. During these five years, 168, or 21·59 per cent., were discharged cured, and 50, or 6·4 per cent., died from conditions associated with or depending upon the chronic hip-joint lesion. The causes of death are as follows: Tubercular meningitis, 20; amyloid kidney, 5; phthisis, 3; exhaustion, 3; tubercular peritonitis, septicæmia, and convulsions, each 1; unknown, 16. These statistics regarding death are approximately correct, as can be vouched for by the assistant surgeons who have prepared the reports of the institution.* Deaths from the ordinary diseases of childhood are not included, and, though some of the unknown sixteen were doubtless due to some intercurrent acute lesion, they have all been included among those dependent upon the joint lesion.

It may be stated that many, if not all, of the patients treated in the dispensary are *experimentally* discharged as cured before they are finally entered as *actually* cured. To explain: A patient answering to the tests we apply would be permitted to go without his apparatus as a matter of experiment for a few weeks, weekly observations being made in the mean time. In some instances symptoms would reappear during this preliminary trial after an indefinite period. The apparatus would then be reapplied, and experimentally removed again some months afterward, and this operation would be repeated until the final test of time proved that the recovery was permanent. The four years' limitation was introduced to cover the doubt that might arise regarding the permanency of the result, and all included in this report have been discharged as *actually* cured. The length of time some of the patients have been under treatment can be accounted for if these facts are duly considered.

The general plan of treatment may be briefly described.

In each case reported, a long Taylor traction-splint was applied soon after the first examination, and the parents or some friends of the patient were instructed in the use of the apparatus. The patient, unless recumbency was necessary to overcome a malposition of the limb, or unless the symptoms were so acute as to demand rest (in which case the patient was visited at home by the out-door visiting surgeon), was allowed almost unlimited exercise in the open air. He was instructed to call at the dispensary every week or two for observation and a readjustment of the apparatus, etc. If the patient's condition required recumbency for a month or more, and his home care was inadequate, he was placed in one of the wards of the institution, but was removed and placed in the dispensary service again as soon as walking was practicable.

The aims of treatment may be briefly summarized:

1. To overcome by mechanical means any acquired deformity that existed before treatment was commenced.
2. To protect the diseased joint from traumatism.
3. To permit the patient to have almost unrestricted outdoor exercise, and
4. To maintain that position of the limb which would reduce deformity to the minimum if ankylosis occurred.

In short, the results here recorded were obtained by simple conservative measures, the protection afforded the diseased articulation by the apparatus being the principal feature of treatment. In no case was any operative measure employed, except the occasional opening of an abscess, with in some cases full antiseptic precautions; in others by simple incision and ordinary dressing. But abscesses were not interfered with, as a rule, unless there were positive indications for the employment of the knife. And, as a matter of experience, abscesses connected with a suppurating hip joint did no better under antiseptic measures than those opened by simple incision, and neither did so well as those which were allowed to open spontaneously. "Cold abscesses" were allowed to take their own course, unless they were in a location which interfered with the use of joint protection. Little or no medication was employed.

But these patients were as carefully watched as the exigencies of dispensary practice would allow. If they failed to report to the dispensary as regularly as directed, they were written to and requested to call, or in many instances they were visited by some one of the assistant medical staff. Indeed, although these patients were wholly from the poorer classes, many of them living in the ordinary tenement-houses, and had in very many instances very bad attention at home, they were cared for under the judicious management of the trustees of the institution by a very earnest and thorough corps of assistant surgeons.

And to these assistant surgeons much credit is due. When it is said that among them may be mentioned Dr. Samuel Ketch, Dr. John F. Ridlon, Dr. T. L. Stedman, Dr. Henry W. Berg, Dr. E. D. Simpson, Dr. Leroy W. Hubbard, and the late Dr. Simeon A. Foster, of this city, Dr. A. Sydney Roberts, of Philadelphia, and Dr. George B.

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* Dr. Samuel Ketch, one of the senior assistant surgeons of the Dispensary, who, with the others mentioned, has had much to do with the preparation of the reports of the institution, furnishes the authors of the paper with the following information: In addition to the 168 discharged cured and the 64 who died (50 deaths only being due to the hip lesion) during the five years specified, 261 were "discharged relieved," 49 were "discharged for neglect," and 6 were "discharged as incurable." The 261 "discharged relieved" include all who were personally known by some member of the staff to be in a fair way to recover, the patients having, on account of change of residence, removal from the city, or some other cause, passed from under observation. The 49 "discharged for neglect" represent those who, after repeated trials, had failed to follow instructions. The 6 "discharged as incurable" comprise a small class for whom the opportunities of a favorable result were not possible in dispensary practice, and who could not be admitted into the hospital. They were not discharged on account of the pathological conditions present, for many apparently desperate cases have been carried to a successful issue by mechanical means alone. It was largely a question of deformity, not of disease, which gave rise to this classification.

Packard, of Hartford, the character of the work performed needs no further comment.

As affecting the question of result, it may be stated that the long splint, without any joint at the knee, was used from the beginning to the end of mechanical treatment. In private practice, an intermediate splint allowing either hip or knee-joint motion, or both, is almost always used during the period of vulnerability of the joint, after the active symptoms have subsided. This intermediate splint is expensive, and for that reason not available in dispensary practice. It is altogether probable that better results, as regards both ultimate position and motion, would have been recorded in many cases had this intermediate apparatus been employed.

Before giving the results of the investigation, it may be well to say that it was first proposed that a detailed statement of each case should be made in this paper before giving an analysis. But the length of an essay presenting this amount of detail would be such that it would be impossible to read it in one evening. Hence it is that our conclusions only are recorded, but only after a patient and very exhaustive examination.

Of the patients with hip-joint disease who were under the care of the institution, and who were discharged as cured from 1875 to 1882, there were found among the number which were available under the exclusive conditions of this investigation 51 which could be traced. Many had disappeared, and prolonged and diligent search failed to find them. In the years that had elapsed they had moved to other places, leaving no trail by which they could be followed. A considerable number were inaccessible.

Of the 51 patients traced, 4 had died—2 of meningitis, probably tubercular, 1 four months, the other six years after discharge, and 2 of pneumonia, seven and ten years respectively after discharge, having been in robust health up to the time of their last illness. Six had relapses They had been under treatment 2½, 4, 4, 4, 5, and 7 years respectively. In 1 case the apparatus was removed without the knowledge of the surgeon, but in the 5 others treatment was discontinued only after the joint symptoms had ceased for some months, and the patient could hop, run, and perform other active movements with the affected limb. One of these (the one whose splint was removed at home) remained well two years; 2 were well three years, 2 four years, and 1 five years before relapse occurred. In 1 case relapse occurred from a severe fall from a cart, but in the other cases no cause could be ascertained. As to the progress of these 6 patients with relapse, 1 had excision of the hip performed at one of the hospitals, and was still in bed after the lapse of one year, 2 are still wearing traction-splints and are nearly well a second time, 1 is on crutches and is slowly improving, and the remaining 2 have been cured a second time by the traction apparatus. The remaining 41 patients were seen at their homes and were carefully examined, with the exception of 2, who were reported to be in excellent health, and walking well at the end of four and six years, respectively. The remaining 39 were carefully examined and measured. These 39 patients had been discharged as cured during the period mentioned (from 1875 to 1882), and had been under treatment as follows:

TABLE I.

Showing length of time under treatment.

2 years	4 cases.
2½ years	4 "
3 years	9 "
3½ years	6 "
4 years	8 "
4½ years	2 "
5 years	2 "
6 years	1 case.
6½ years	1 "
7 years	1 "
8 years	1 "
Total	39 cases.

When these 39 patients presented for their first examination, the disease had been in progress, as stated by the parents or friends accompanying the patient, as follows:

TABLE II.

Showing length of time disease had existed prior to the commencement of treatment.

Length of time.	Cases.
Less than 6 months	8[†]
Six months to 1 year[*]	18[‡]
2 years	3
3 years	5
6 years	1
7 years	1
9 years	1
For an indefinite time	2
Total	39

It can readily be appreciated, from studying the foregoing tables, that the cases reported are unselected. They represent all phases and conditions of hip-joint disease such as are likely to present in every-day dispensary work.

Of the 39, 27 had one or more abscesses at some stage of the disease, and 12 had none. But the latter were by no means the less marked cases or the ones followed by the best results.

Although, in the foot-notes above, an attempt has been made to express in degree the results obtained in certain cases, the difficulty of conveying a definite idea as to results in this manner leads us to state definitely, in tabular form, when possible, the actual results obtained.

First, we will consider the difference in the length of the lower extremities.

The difference in the length of the legs, measured from the anterior superior spine of the ilium to the inner malleolus, was, when any difference existed, from half an inch to two inches and a half, with two exceptions. One patient, with dislocation of the head of the femur, had six inches shortening, and one (without abscess) had three inches. Two had absolutely no shortening. The amount of shortening did not seem to depend upon the presence or absence of abscess. The case with six inches shortening and dislocation ran its entire course without evidences of suppuration, while, on the other hand, the patients in whom there was absolutely no shortening each had abscesses. One of these children with no shortening had six distinct sinuses, the other two. It will be seen from a study of the following table, however, that the cases where abscess was present show more shortening than the others:

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[*] Of those applying with a history covering less than one year, 19 gave a definite time. Two weeks, 2 cases; 4 weeks, 1; 8 weeks, 2; 4 months, 2; 5 months, 1; 6 months, 5; 7 months, 2; 8 months, 2; 9 months, 1; 10 months, 1.

[†] Of the 8 cases where disease had existed less than 6 months, the ultimate result was as follows: Perfect, 2; excellent, 2; good, 1; fair, 1; poor, 1; indifferent, 1.

[‡] Of the 18 cases where disease had lasted from 6 months to one year, the ultimate results were: Excellent, 1; good, 4; fair, 11; poor, 2.

TABLE III.

Showing the relation of the presence or absence of abscess to shortening of the limb.

Shortening, in inches.	Cases with abscess.	Cases without abscess.
0....................	2	..
½....................	1	1
1....................	5	5
1½....................	4	3
2....................	8	1
2½....................	5	..
3....................	..	1
6....................	..	1
Total..............	25	12

The influence of age upon the ultimate amount of shortening is worthy of study.

In reaching conclusions on the point, the cases were divided into two classes:

1. Those in which the disease ran its course, and was cured before the age of ten was reached; and

2. Those in which the disease began at, or continued beyond, the age of ten years.

Table No. IV. has been prepared to show the effect of early and late disease.

TABLE IV.

Cases cured before 10.	Cases cured after 10.	Shortening in inches.
2....................	..	0
1....................	1	½
6....................	4	1
5....................	2	1½
3....................	6	2
—....................	5	2½
1....................	..	3
—....................	1	6

Eighteen cases cured before ten years represent an aggregate of twenty-five inches of shortening, while nineteen cured after ten represent thirty-eight inches of shortening.

In studying the general effect of shortening, it was found that it existed principally in the femur, though the tibia shared in it to a lesser extent also. The shortening of the thigh was ordinarily about two thirds of the whole, but sometimes it was less, and in one case of two inches and a half shortening it was wholly in the femur. In two cases, where there was a considerable shortening of both femur and tibia, the fibula seemed much less affected than the other bones. When there is much shortening of the leg, the foot of the affected side is also smaller than the other.

The difference in the length of the legs almost always increases slightly after the disease is cured. At the time of discharge from the dispensary, careful measurements were made and recorded in twenty cases. At that time the shortening varied from half an inch to an inch and a half, and in only four cases was it as much as two inches. Several years afterward these cases showed, almost without exception, an increase in the amount of shortening. In five cases it was an inch or less, and the rest showed from one and a half to two and a half inches difference. The legs had grown meantime five, ten, or even fifteen inches, so that the shortening was not in any case excessive. It also seems that the shortening does not increase indefinitely, for, in the cases where eight or ten years had elapsed between the two measurements, there was no greater shortening than when three, four, or six years had elapsed.

The difference in the circumference of the thighs, measured at the middle, was from one to three inches. In one case it was four inches, but the majority were between one and two inches. No constant increase or decrease took place as the years went by, some cases showing more atrophy than five years before, and some showing just the same comparative difference. The wasting, however, did not disappear, and in no case, even when the restoration of the joint was perfect, was the difference in the circumference of the two thighs less than one inch. Nor did the amount of atrophy at the time bear in the history of the disease any constant relation to the amount of shortening. It would appear that there may be a maximum of muscular atrophy with a minimum of bone shortening, and *vice versa*.

The atrophy of the muscles of the calf behaved in much the same way, except that it grew less in the course of years much oftener than the thigh atrophy did. It ranged from an inch to an inch and a half, and was ordinarily one half or one third as much as the atrophy of the thigh. In a word, it is apparent that the nutrition of the bones and muscles of the entire limb receives in hip-joint disease a shock from which it never entirely recovers.

No treatment was used to develop these atrophied muscles. The use of electricity, massage, etc., would probably have resulted in much better muscular development, as has often been the case in private practice.

Nineteen cases were found with practically ankylosed joints, six with slight motion in flexion, seven with motion in flexion of from 10° to 45°, and a certain amount of motion in other directions; three with motion to a right angle in flexion, and good rotation and abduction, and three were found with *perfectly free motion in every direction.*

It is very interesting to see from the subjoined table that the presence or absence of abscess seems to have but little influence upon the amount of motion after final recovery from the disease.

TABLE V.

Showing the influence of the presence or absence of abscess upon joint-motion.

Condition of joint as regards motion.	One or more abscesses.	No abscess.	Total.
	Cases.	Cases.	Cases.
No motion in joint............	12	4	16
Slight motion..................	4	2	6
10° to 45° of motion..........	5	2	7
90° of motion..................	3	..	3
Perfectly free motion..........	2	1	3

Examination proved that the amount of motion grows less as time goes by. At the time of discharge several of these patients had a certain recorded degree of motion of the affected articulation. This motion had entirely disappeared a few years later, and in this table these cases figure as cases of ankylosis. Two patients in whom 90° of flexion was possible six years ago, had only 30° when examined in 1886. In no case was it noted that joint motion had increased since the final discharge and record. It almost invariably grew less.

An important practical point, as regards the use of the limb and locomotion in cases where ankylosis takes place, is the position in which ankylosis occurs. In 15 of the cases where there was little or no motion at the articulation there was no flexion of the thigh. The limp in these cases was trivial. In other cases the thigh was flexed at an angle of 120° to 135° with the horizontal plane of the body. This was not a serious impediment to locomotion when a flexible dorso-lumbar spine and a sound hip joint on the opposite side existed, but in one case there was caries of the lumbar spine, and in this case there was very difficult locomotion. Flexion to 135° with a normal spine does not produce either difficult locomotion or a bad gait, and in no case examined did the permanent flexion exceed this angle.

Permanent *adduction* is a more important matter. Of 24 cases it was very slight or absent in 13, in 8 it equaled 10° to 15°, and in 3 cases it was about 30°. In two cases there was slight abduction of the thigh, and in one of these there was a condition of superextension of the knee. But even in this condition the patient walked well. In cases where abduction was present in the earlier history of the disease, adduction was found in the late history; and adduction is likely to occur after the removal of the splint, and to increase up to a certain point. But, as shown above, adduction to 30° occurred in only three cases, and in only one of these was it troublesome. In this case the slight flexion, with adduction to 30°, a real shortening of one inch and a half became, for the practical purpose of locomotion, a shortening of four inches.

It is desirable to maintain the parallelism of the limbs if possible. If the patient can place the limb squarely under the pelvis, locomotion is comparatively easy, even if flexion is present, and in cases where it is possible a protective, intermediate, perineal support with joints at the hip, knee, and ankle should be worn to prevent the adduction which is very apt to occur after the removal of the unjointed traction apparatus.

When the hip joint is stiff the dorso-lumbar spine and the unaffected hip joint have to do the work ordinarily performed by the two normal hip joints. After prolonged walks or over-exertion in locomotion it was common for those examined to complain of backache. But this was only temporary, and disappeared after rest.

One or two were subject to slight attacks of pain in the hip in damp weather, but there was no sign of disease, and a relapse was not anticipated. Their health seemed perfect. Pain and weakness of the ankle on the affected side was common, and non-deforming club-foot or an inability to flex the foot beyond a right angle was present in twenty cases and absent in thirteen. The rest were not noted. It was, of course, most apt to be present when real or practical shortening made it necessary to reach down with the toes at every step. One patient was in a condition of acquired talipes equinus.

A very careful examination was made as to the presence of lateral curvature of the spine in nearly every case. There were some forty individuals examined, all of whom had some difference in the length of their lower extremities. The difference varied, as above noted, from half an inch to six inches. They had, nearly all of them, this difference when they entered upon puberty. The conditions are those that we have been taught to believe are most potent in the production of true lateral curvature. Habitual malposition of the spine in standing, walking, or even in sitting was present in many cases. And yet in only one case of the whole forty was there anything that approached true lateral curvature. One girl, aged fourteen, had a slight but distinct lateral curve in the dorsal region, and a still smaller curve in the lumbar region. There was slight rotation of the vertebræ, as shown by the position of the ribs, when extreme anterior flexion of the spine was executed. The lateral curve was almost wholly obliterated when the patient was placed on her face and the pelvis was straightened, but the rotation persisted in a slight degree. There was no lateral rigidity of the spine. She had two inches true shortening of the left leg, which was practically three inches in the standing position on account of 15° adduction and slight flexion. There was in this case an incidental curve of the spine due to the tilted pelvis, but in many respects the curvature lacked the characteristics of true rotary scoliosis.

It appears from our investigations that the amount of shortening of the leg is not dependent on the presence or absence of abscess, that it is less in children who are cured before ten years, and that it apparently increases after that age is passed. It also appears that shortening increases slightly after the joint disease is arrested, which seems to prove that the affected limb did not grow so fast as its mate.

Muscular atrophy is always present in hip-joint disease. It persists after the disease is arrested and the apparatus is removed, and it may often improve after treatment is stopped, but never wholly disappears.

The amount of motion in the joint when the disease is arrested and the apparatus is removed is very apt to diminish somewhat in the course of years; but recovery with perfect motion is not impossible, or indeed unlikely. The presence or absence of abscess has no apparent effect on the amount of motion obtained.

Ankylosis being the result most likely to occur, it is important to study the ultimate position of the limb, so that, if ankylosis occurs, the most useful position will result.

Adduction, rather than flexion, is the ultimate position to be avoided, and adduction is apt to occur after the joint seems to be free from inflammation and the apparatus is removed.

Non-deforming club-foot, or even a considerable degree of acquired talipes equinus, may occur when there is much shortening of the leg with flexion of the thigh.

True lateral curvature with rotation occurs very exceptionally, if at all, as the result of even great inequality in the length of the lower extremities, only one case being found in the series, and that not a true rotation curve.

A comparison of the results here reported with the published results of excision of the head of the femur leads the authors of this paper to the conclusion that the conservative methods of treatment here described promise much better ultimate results than excision of the joint, aside from the greater mortality attending the operation.

We may briefly summarize the results of our investigations as follows: Of 51 patients discharged as cured over four years ago, 4 have died, 6 have had relapse, and 41 have apparently been cured of the disease. Of the 4 who died, 2 only had presumably tubercular disease, the other 2 dying of an acute lesion. Of the 6 who had relapse, 2 are now under active treatment with a prospect of a speedy cure, and 2 have been cured a second time. One has been in bed a year after excision of the joint, the other is on crutches. Of the 41 who recovered there is not a single individual who is incapacitated from doing a full day's work at his or her trade or occupation. Only one, a boy who had suffered from both Pott's disease and hip-joint disease, used a cane, and none used crutches. There are, among those who recovered, printers, glaziers, machinists, errand-boys, shop-girls, dressmakers, and many children attending the public schools—all at their work and none with evidences of active tubercular disease or any serious incapacity arising from the condition for which they were treated years before.

THE MANAGEMENT OF FÆCAL RETENTION UNCONNECTED WITH ORGANIC DISEASE.[*]

By GEORGE DALTON HAYS, M. D.

THE record of extraordinarily prolonged fæcal retention is a long one, and includes cases ranging from a few weeks to many months.[†] It is not unusual for a patient to affirm that he has a daily stool, and yet to find, on careful examination, that the bowels are but very imperfectly emptied. This is the "fæcal stagnation with overflow" of Cruveilhier.[‡] One of the worst cases it has been my fortune to attend was in the person of a lady convalescent with pneumonia, in whom my nurse continued to report that this function was normally performed. I had eventually to spend some hours in mechanically removing large masses from the rectum.

Fæcal retention may take place in any portion of the large intestine; the masses may completely occlude the tube,[#] or may lie in pouches over which fæcal matter may pass without obstacle. The largest accumulations are usually found in the sigmoid flexure and the cæcum.[‖] Bristowe[△] mentions cases where the circumference of the colon measured twelve inches, and Johnston[◊] cases where it measured thirty.

The worst cases usually occur in old people, but there is reason to believe that a loaded colon is more frequently incidental to the ordinary city life than is commonly supposed. Moreover, Gay[*] has recorded a very severe case in a boy of seven, and Peacock[†] a fatal one in a man of twenty-eight. The writer has met with numerous severe cases in children, and several in adults below middle age, the female sex largely preponderating. In one case, that of a young man of twenty, seen in Lyons, France, an extremely large quantity of semi-fluid tarry matter was retained by the bowel, until the removal of a ball of hardened clayey fæces, which completely filled the rectal pouch. This is the "ball-valve obstruction of the rectum by scybalous masses" of Sir James Simpson. When fæcal masses become impacted in the rectum we may remove these either with the finger or with the scoop. The sphincter is usually in a state of spasmodic contraction and very painful, and hence the use of an anæsthetic is advisable. Under its influence the sphincter may be dilated to its full extent, or, as Allingham[‡] recommends, forcibly dilated, after which we can get at the interior of the rectum without difficulty. In all cases a stream of hot water should be thrown against the hardened masses until they disintegrate. If the scoop is employed it should be used through a speculum, which will also serve to keep the anus from closing spasmodically. After the removal of the masses it is well to introduce a suppository of extracts of belladonna and hyoscyamus, and, if the task has been a prolonged one, a small quantity of morphine may be added. Afterward a dose of castor-oil should be given, and the bowels further regulated by methods of which we will speak hereafter. If the impaction is higher up we must have recourse to other means. It is not infrequent in such cases to begin with some cathartic. In an article entitled "Constipation in Childhood,"[#] Dr. Cheadle says: "Where constipation has long existed the indications are to clear out the intestine by a brisk purge, like calomel and jalap." I am convinced that this is extremely bad advice. Even the mildest laxatives are harmful at this stage. In my experience they have invariably caused severe griping, the result of the forcible propulsion of the hardened matter against the intestinal coats. Before using other means, we should first resort to intestinal irrigation, the apparatus required for which is as follows:[‖] A reservoir for the fluid to be used, a long piece of flexible rubber tubing, and a rectal tube or bougie. These requirements are filled by attaching a quart-size fountain-syringe to tubes of variable diameters, according to the nature of the case. The tube is to be coated with vaseline and gently introduced as high up as possible.[△] The reservoir, previously filled with the fluid to be injected, is to be placed at an elevation which will cause the proper hydrostatic pressure. The liquid is to be as near the temperature of the body as possible. When the clasp which compresses the tube is released, the liquid does not usually begin to flow until two or three forcible compressions of the tube have been made to expel the air. To have this more within control, I interpose between the syringe and rectal tubes a bulb such as is found on a Davidson syringe. This not only serves to start the flow of the liquid, but enables one to apply extra force to the stream, if the end of the tube should become clogged with mucus or solid fæces. The patient is to be placed on his hands and knees to favor gravitation away from the rectum. This bowel in a state of health is empty. However true that some of O'Beirne's "Views"* were fanciful, this one seems to have stood the test of time. One of the points thought to weigh against this conclusion is that the finger not infrequently encounters fæcal matter in gynæcological examinations *per rectum*. In order to obtain some exact information on this point, the writer addressed a letter of inquiry to a number of eminent gynæcologists. A careful analysis of the answers received would seem to indicate that some fæcal matter is found in the rectum at these times. Emmet, who examines in this way every patient who consults him for the first time, replies, the rectum is usually found "with women to contain fæcal matter." Thomas says, "not full of fæcal matter, but containing a small amount." Others state that the rectum is usually found empty by them, but modify this further on by saying that they never examine a patient in this way unless they feel through the vaginal walls that such is the case. We must bear in mind, however, that the gynæcologist does not deal with healthy people, and that women of the present day are avowedly constipated. Hilton Fagge † seems to express the opinion of the greatest authorities ‡ when he says: "I believe that in health the rectum is generally empty, and that when a fæcal mass, even of small size, has once entered this part of the bowel it ought at once to excite sensations which should bring about its expulsion. In persons who are habitually constipated the rectum loses its natural sensitiveness."

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[*] Read before the Section in Materia Medica and Therapeutics of the New York Academy of Medicine, March 25, 1887.

[†] Three years is the period mentioned by J. Chalmers in the "Med. Gazette," London, 1843, vol. xxi, p. 20.

[‡] "Path. gén.," vol. ii, p. 868.

[#] Peacock, "Tr. of the Path. Soc. of Lond.," vol. xxiii, pp. 104–106.

[‖] Bristowe, "Diseases of the Intestine and Peritonæum."

[△] *Op. cit.*

[◊] Pepper, "Syst. of Med."

[*] Gay, "Sacculated Colon," "Tr. of the Path. Soc. of Lond.," vol. v, p. 174.

[†] Peacock, *ibid.*, vol. xxiii, pp. 104–106. On post-mortem, the body was found perfectly healthy, except the enormously dilated colon. In both this case and the one before mentioned, enemas were the only means that gave relief.

[‡] "Dis. of the Rectum," Philadelphia, 1883.

[#] "Lancet," Dec. 4, 1886.

[‖] Hegar, Korup, and others have invented special forms of this apparatus.

[△] Six to twenty-four inches or more.

It is not necessary, in accounting for this condition of the rectum, to assume the presence of a third (Nélaton's) sphincter, or of Houston's valves, or of any other appendage. The cause is to be sought in the position and shape of the sigmoid flexure, which eminently fit it as a receptacle for fæcal matter; in the relatively great thickness of the muscular wall of the rectum; and in the considerable constriction sometimes spoken of as the sphincter of O'Beirne, which exists at the upper extremity of this latter bowel.# When from intestinal derangements, whether of a temporary or chronic nature, the fæces are more or less liquefied, the desire to empty the bowel is imperative and frequently beyond the control of the sphincter, whose use appears to be the delaying of the discharge to a convenient moment. It is for these reasons that the patient is to be placed in the position named. By favoring gravitation away from the rectum we are enabled to introduce a quantity of fluid at once surprising and by other means unattainable. As much as seven or eight pints may be thrown up in the manner described without causing any particular discomfort. Of course, the more completely the colon is filled with fæcal matter, the less liquid it is capable of receiving in this way. But this is the point which I desire to make, that by following the plan indicated it is always possible, where no disease of the bowel exists, to bring the liquid introduced into contact with the hardened fæces, no matter how high up they may be situated. The more exactly all the conditions named have been fulfilled, the larger may be the enema introduced and the longer retained; and as the object sought is to soften these masses, and not, primarily, to cause increased peristalsis, it is well to give our attention to every detail. It is, above all, important to have the temperature of the liquid as near 100° F. as possible, to have it flow very gradually,* and with just sufficient force; and to have the tube passed some twelve or eighteen inches or more above the anus. The French irrigatory apparatus and the ordinary Davidson or other bulb syringes are altogether unsuitable for the purpose named. A quantity of the fluid will soon be discharged, bringing away with it more or less fæcal matter; some portion of the enema will, however, be retained, the amount varying with the condition of the colon. The patient is then to be left at rest for several hours, and hot-water bags are to be applied over the abdomen. An ounce or two of castor-oil may be administered, gentle kneading made over the site of the colon, and just before the time the oil is expected to operate another enema is to be given in the manner already indicated. "After this the deluge!" In this way I have removed, with but very slight inconvenience to the patient, large quantities of fæcal materials, which had been accumulating over many months. I have seen the methods usually employed give the patient great agony, set up severe inflammation, and render further efforts in this direction dangerous. Paroxysmal pains of a violent character precede the efforts at stool, and are rapidly followed by symptoms of intestinal obstruction, which may terminate fatally.† Where the fæcal matters are deposited on gall-stones, some pain will necessarily follow their passage.

Isnard, Cantani, and Kerkringuish have maintained that water may be made to pass the ileo-cæcal valve. A host of other observers assert that this is impossible. Certainly no fluid ‡ can be injected past this point in the cadaver when the valve is normal.

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* "New Views of the Process of Defecation," Dr. James O'Beirne, Dublin, 1833.

† "Prin. and Practice of Med.," London, 1886.

‡ Foster, "Physiology," London, 1880, pp. 302–304; Yeo, "Physiology," Philadelphia, 1884, p. 120; Flint, Jr., "Physiology of Man," New York, 1875, vol. ii, p. 406; Flint, "Pract. of Med.," Philadelphia, 1881, p. 533.

Bushe, who was O'Beirne's first great critic, denied the existence of this constriction.—"Dis. of the Rectum and Anus," New York, 1837.

* Dr. Jewell says "the fluid should flow with considerable force until it makes its way past the upper sphincter, which is at the lower part of the sigmoid flexure."—"Overfilling and Dilat. of the Colon," "Med. Age," Oct. 11, 1886. This resistance is best overcome by the use of the long tube.—G. D. H.

† Bristowe, *op. cit.* Johnston, *op. cit.*

‡ Galen, Sennert, Pare, Bartholin, Colson, De Graff.

As, however, the formation of fæcal matter begins at the valve, and as the small intestine very rarely becomes the seat of fæcal deposit,* the question is not a very important one as regards our present subject.

For the treatment of constipation in its milder forms, or to prevent the recurrence of these large fæcal masses, we have numerous means at our control. We may classify them as hygienic, mechanical, and medicinal.

Among the hygienic the first place should be assigned to diet. Constipation is most frequently dependent upon stomachal or intestinal indigestion, and, if this can be cured, we shall most frequently find ourselves far advanced in the relief of the constipation. No system of diet can be tabulated suitable for the exigencies of every individual case; the aim is to secure perfect digestion and absorption and natural peristalsis.

Bischoff and Voit have shown that the evacuations depend to some extent upon the character of the food, vegetable diet producing abundant and animal diet scanty stools. Articles which have a laxative power, however, seem to lose it from continued use. Moreover, excess of vegetable food constipates by mechanically filling up the bowel with matters difficult of removal.†

Ingestion of too small a quantity of water is a cause of constipation. I have been able to relieve a number of patients by ordering some non-laxative mineral-water, such as Apollinaris. Drinking-water is no doubt equally serviceable, but the other is pleasanter, and, according to my experience, much more likely to be persisted in. Coffee, with milk, at breakfast is an excellent regulator of this function in many. Its effects, however, are most marked in those to whom its use is not habitual. In some people milk answers the same purpose. Graham-bread has long been lauded as more nutritious and less constipating than the loaf made from white flour.

The writer has elsewhere ‡ pointed out the fallacy of the former opinion, and the latter is a very doubtful one and still *sub judice*. Its laxative tendency is supposed to depend upon the mechanical action of its refuse matter in exciting peristalsis. Foods chosen for this purpose are only temporarily efficacious and not infrequently dangerous. The seeds of fruit and the husks of seeds are very apt to produce acute or chronic constipation.#

Exercise in the open air is of great value in keeping the bowels regular. Marshall Hall ‖ and Habershon ^ both laid stress on its importance in this particular. Horseback riding, tennis, rowing, and, perhaps, walking,◊ are of service. Where these are unattainable, great good will follow the judicious use of the pulley apparatus known as the "chest weight." Motions which tend to arch the abdomen forward are those which develop the muscles of these parts. I can speak confidently of the utility of this apparatus from experience of its use in my own person. It is of especial service to girls and young women. The weight should never be sufficiently heavy, nor the exercise sufficiently prolonged, to cause fatigue. It is the little brisk exercise that does so much service. Very violent exercise, accompanied by profuse perspiration, favors constipation by increasing the dryness of the stools. Habit plays a great part. Regular hours for meals and for defecation largely favor normal peristalsis. The bowels should be solicited every day at the same hour. If they fail to move one day, they should be solicited at the same hour on the next day, and even on the third day, before resorting to medicine. This is, above all things, important in young children, in whom habit is so great a factor.

Interference with habit is often the beginning of much future disorder. I have at present under my care a lady whose trouble began on entering boarding-school. Her teachers here were principally men, and a sense of false modesty prevented her leaving the room at the hour when she had always been accustomed to satisfy her natural desire. Many of the other young ladies in the school were afflicted in the same way.

Climate is a factor. Differing degrees of humidity of the atmosphere have close relationship to constipation and diarrhœa.

Of the mechanical measures the most important is the clyster. This useful agent has been employed from time immemorial,* the ancients ascribing its origin to the stork, which, as Galen relates, "once upon a time, having pains in its belly, took up sea-water in its bill, and squirted it into the rectum." In acute constipation, occurring in adults or children, the best method of emptying the bowels is by a warm-water enema, introduced through a tube passed high up. In chronic constipation one of the best means of restoring normal peristalsis is the injection of a small quantity of cold water into the rectum, or of a larger quantity passed high up through the tube. The use of the ordinary short pipe for large enemas is very irrational, because the fluid immoderately distends the rectum, the frequent repetition of which may lead to torpor of its coats. It is said that the prolonged use of clysters causes muscular enfeeblement, and that it is dangerous "to distend a bowel already weakened by distension." There is no doubt that enemata, given in the ordinary way, soon become ineffectual, and eventually increase the torpor of the bowels. But I am convinced by the most painstaking investigations, carried on through a period of years, that the dangers said to beset the use of this remedy arise from a misconception of its proper application. I was highly gratified by coming across the following views of Dr. Winternitz, expressed in a late work:† "Low-tempered fluids injected in very small quan-

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* Bristowe (*op. cit.*) mentions cases where the small intestines were filled with semi-fluid, olive-green contents. Aitken ("Science and Pract. Med.," London, 1880, p. 893) states that the small intestine may form fæcal matter.

† Habershon reports cases of constipation from the habitual use of coarse brown bread. "Diseases of the Aliment. Canal," London, 1857.

‡ "Artific. Alimentation," "N. Y. Med. Jour.," January 29, 1887.

Numerous cases are mentioned by Howship, "Diseases of the Lower Intestine and Anus," London, 1821, and by King Chambers, "Digestion and its Derangements," New York, 1856.

‖ "Disord. of the Digest. Organs," Keene, 1823.

^ *Op. cit.*

◊ Henoch thinks walking of very little value in this affection.

* Aetius treats of clysters very fully. He prefaces his account of them with a list of the evils arising from constipation. "Works of Paulus Ægineta," London, 1844.

† Ziemssen's "Handbook of Gen. Therapeutics," New York, 1886.

tities into the lowest part of the bowel, or infused gradually into the upper portion by means of a long tube, do not easily lose their efficacy, and will prove useful after years of constant use." In regard to the second objection, it has been shown [*] that dilatation of the intestine is usually accompanied by hypertrophy of its muscular coat. Röhrig has proved that water injected into the intestine temporarily increases the flow of bile, and this means more active peristalsis.

Passing on to other mechanical measures, we may mention soap or gluten suppositories as a common and useful means of exciting a natural habit in infants and young children.

There is an axiom of Hippocrates that anorexia, heartburn, vertigo, and a bitter taste in the mouth, in a person free from fever, indicate the want of "purging upward." These are the symptoms which are usually denominated by the popular word "bilious," and which the older writers supposed to be due to "the accumulation of bile of an unnatural character, and possessed of some unusual irritating elements." [†] According to J. Wickham Legg,[‡] there is no evidence to prove that this affection is accompanied by any increase or decrease, or *any* change whatever in the secretion of bile. However this may be, the symptoms yield as soon as a discharge of bile and of the contents of the intestine has occurred. This is often impeded by the great irritability of the stomach, and hence, unless vomiting has already taken place, ipecac may be given until emesis occurs. This is the "purging upward" of Hippocrates; but by stomach *lavage* we accomplish the same object to-day in a much more satisfactory manner. Not only in these cases, however, but in all forms of constipation, I am accustomed to wash out the stomach. In the modern method of stomach siphoning we have a remedy eminently practical and satisfactory; and I have yet to see a case that can not in some measure be benefited by it.

Cholagogues are useful in these "bilious" attacks, not because they stimulate the liver, as has been supposed, but on account of their power to cause a discharge of bile from the body by their action upon the intestines.[#]

Electricity is an important agent in restoring tone to the walls of the bowels and abdomen, but, to be of any permanent service, its use must be persisted in for weeks. An insulated electrode may be introduced into the rectum, while a large sponge electrode is passed over the abdomen. The interrupted current is to be employed. Very powerful currents can be borne in the rectum without discomfort. As Niemeyer says,[‖] the proposal to place one electrode in the mouth and the other in the anus must be regarded as very naïve. Beard and Rockwell [△] mention a number of cases in which the faradaic current proved curative, and Watson [*] others with the galvanic current. I consider electricity a valuable adjunct, but have never felt safe in relying upon its aid exclusively. Massage will serve the place of exercise in feeble persons. Dr. Graham, [†] and more recently Dr. George Beine,[‡] have reported cures attributed to this means alone. The Swedish-movement cure is also accredited with successful results in this direction.[#] Cold douches or compresses to the abdomen are other useful measures, as are also cold sitz baths.[‖] An abdominal support is of value in the aged, and in multiparæ with lax abdominal walls.

Certain drugs are used in the treatment of accidental and habitual constipation. Purgatives are usually classified into laxatives, cathartics, and drastics. Another classification [△] is into those which increase intestinal secretion, those which act upon the central nervous system, and those which act by local irritation (mechanically). A word as to the philosophy of their employment.

The experiment known as Thiry's fistula had led physiologists to conclude that all purgatives acted by increasing peristaltic movements until the more accurate researches of Moreau showed that they cause also a decided secretion of fluid from the intestinal walls. Hess, [◊] of Munich, has recently done some confirmatory work in the same direction. In accidental constipation we have a long list of valuable agents. The most frequently used are the salines, especially in the form of mineral waters. Of these, Hunyadi, Friedrichshall, Pullna, Congress, Hathorn, Vichy, Kissengen, and Carlsbad are the most valuable, and most commonly employed in the United States. These waters are usually well borne by the stomach, act rapidly and painlessly, and leave no after-effects. It has been found that the sipping of fluids not only increases the secretion of bile, but raises the pressure under which the secretion takes place. The experiments of Heidenhain proved that the pressure under which the bile is excreted is very small, and therefore very little obstruction to its flow into the duodenum is sufficient to keep it from entering the intestine. Hence sipping is the manner in which these waters should be used, and probably accounts for the fact, discovered by Rutherford, that Carlsbad water taken in numerous sips, for an hour or more, as at the springs, is so efficacious in hepatic disorders; while a solution of sodium sulphate, its main constituent, as ordinarily used, has very slight action on the liver. Castor-oil is a mild and very excellent laxative. It operates in from four to six hours. It may be disguised in strong coffee, in hot milk flavored with cinnamon, or in the froth of ale or porter.

If a cholagogue action is desired, we may select any of the following drugs: aloin, rhubarb, podophyllin, the mercurials, euonymin, and iridin. I have found the following particularly serviceable:

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[*] Bristowe, "Pract. of Medicine," London, 1876, p. 714.

[†] George Gregory, M.D., "Theory and Pract. of Physic," Amer. edit., New York, 1830.

[‡] "The Bile, Jaundice, and Bilious Diseases," London, 1880, p. 661.

[#] Murchison, "Dis. of the Liver," New York, 1885. Brunton, *op. cit.*

[‖] "Practical Med.," New York, 1871.

[△] "Med. and Surg. Uses of Electricity," New York, 1871.

[*] "Pract. of Physic," Sir Thomas Watson, M.D., London, 1871.

[†] "Treat. on Massage," New York, 1884.

[‡] "Jour. de méd. de Paris," Jan. 2, 1887.

[#] "Treat. of Constip. by the Swedish Mov. Cure," Dr. Benjamin Lee, "Med. and Surg. Reporter."

[‖] 15°-25° C (60°-75° F.).

[△] All classifications are avowedly artificial, since there are no sharp lines of demarkation.

[◊] "Deut. Archiv für klinische Medicin," Band xl, Heft 1.

℞ Aloin.......................... gr. $\frac{3}{4}$;
Mass. hydrarg.................... gr. vj;
Extract. hyoscyami (Squibb)....... gr. ix.

M. Ft. cap. no. iii. One at night as required. The action of this pill is gentle but very satisfactory. I give one at night, and order it to be repeated at the end of forty-eight hours if the group of symptoms denominated "bilious" has not completely disappeared. I have never known it to produce griping, except where the colon is overloaded, and in such cases it should be preceded by an enema, as has been already indicated. Another combination is as follows:

℞ Aloin.......................... gr. $\frac{3}{4}$;
Pulv. aromat..................... gr. ix;
Ext. hyoscyam. (Squibb).......... gr. vj.

M. Ft. cap. no. iii. Sig.: One at night. These are prescribed for delicate patients, especially women, where repetition of the remedy may be necessary from time to time, and where it is not advisable to administer a mercurial. Rhubarb is a valuable remedy in unloading the bowels, especially in infants, to whom it is best administered in the form of the compound powder or the aromatic syrup. For adults where a mild action is desired, the compound pill of the pharmacopœia proves serviceable. Podophyllin, so strongly praised by Brunton and Ringer, and vaunted as the regulator *par excellence* of stools by Constantin Paul, has proved both an unreliable and unsatisfactory drug in my hands, and I have completely discarded its use. One great authority, Dujardin-Beaumetz, is dissatisfied with it, for he says*: "Podophyllin determines severe bodily pains, and I have been obliged to abandon it for this reason."

Phosphate of sodium and chloride of ammonium are also employed as cholagogues. The former is a useful agent where the constipation is associated with intestinal catarrh. It may be administered in ten-grain doses to children, and drachm doses to adults.

In habitual constipation the use of drugs is to be avoided if possible. Very few of them have more than a temporary value; they frequently perpetuate the evil for the cure of which they are employed, and they create in the individual a tendency to render wholly an act of volition a function designed by nature to lie principally without the will.

Of the drugs used to restore lost tone to the intestinal walls, strychnine stands at the head. It is often serviceable, but should only be employed as an adjuvant to a proper dietary and a better hygiene. It may be advantageously combined with aloin and belladonna, an excellent remedy being a pill containing the following:

℞ Aloin.......................... gr. $\frac{1}{4}$;
Strychn. sulph................... gr. $\frac{1}{60}$;
Ext. bellad...................... gr. $\frac{1}{4}$;
Pulv. ipecac..................... gr. $\frac{1}{16}$.

Sig.: One at night.

This pill possesses the advantage of producing stools of a natural consistence, and of being harmless if long continued. If it acts too freely, the dose should be decreased. Nothing approaching a purgative effect should be permitted. Eventually its use should be intermitted for longer and longer periods, and at last omitted. A favorite prescription of Allingham* consists of a pill containing one grain each of aloes and quinine, and one quarter of a grain each of sulphate of iron and extract of nux vomica. The iron salt is a valuable addition. Aloes in small doses is one of the best remedies for atonic subjects. It has numerous official combinations in the pill form. Of these the most noted are the pill of aloes and mastic, and the pill of aloes and myrrh. Either of these may be employed where the strychnine in the foregoing formula is contra-indicated. As aloes requires from ten to twelve hours to act, it is frequently employed as a "dinner" pill. In this case, as in others, the active principle (aloin) is more reliable than the crude drug. Aloes is contra-indicated in the constipation of plethora, and in irritable states of the alimentary canal.

Belladonna was advised by Trousseau to increase peristalsis and to prevent griping. If it does not possess all the curative value he alleged for it in this affection, it is nevertheless a useful agent.

Ipecac is classed by Brunton† as a powerful hepatic stimulant. Ringer‡ states that it possesses some purgative action, which it exerts by increasing the production of mucus. One grain may be given each morning before breakfast, he says, to relieve constipation depending on great torpor of the intestine. The same treatment will relieve the associated dyspepsia.

Physostigma is another drug of use in intestinal torpor. In cases of constipation connected with irritable states of the spinal cord, I am in the habit of prescribing the following:

℞ Extract. physostig.............. gr. $\frac{1}{2}$;
Extract. bellad.................. gr. ij;
Extract. ergot................... gr. xij.

M. Ft. pil. no. vi. Sig.: One at night.

I have found these very useful in some cases, and have known them to fail in others.

Arsenic, in small doses, is of service in constipation dependent upon catarrhal states of the stomach and intestine. It should be administered in the form of Fowler's solution, one or two drops, three times a day, largely diluted, and persevered in.

Cascara sagrada (*Rhamnus purshiana*) is a valuable remedy. It acts like *Rhamnus catharticus* and *Rhamnus frangula* in increasing the intestinal secretions and in stimulating peristalsis, but it is less drastic and more active than these. It may be exhibited in ten- to fifteen-minim doses of the fluid extract, combined with aromatics, after each meal, or in two- to five-grain doses of the extract. Its use in this way is not attended with unpleasant after-effects, nor does it cause griping. It is indicated in obstinate and prolonged constipation accompanied by sympathetic derangement of the digestive tract. Many such cases in women, where the colon had been allowed to distend from neglect and in-attention, have been recorded as successfully treated with this drug; and I can add to this favorable testimony flattering results in several cases under my own care. After it has been employed for a while, it is found possible to gradually diminish the dose. In the "bilious" attacks to which reference has been made the following mixture often proves serviceable:

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* "Dis. of the Stom. and Intes.," Amer. edit.

* "Disease of the Rectum," Philadelphia, 1883.

† "Pharmacol., Therapeut., and Mat. Med."

‡ "Hand-book of Therapeutics," N. Y., 1886, p. 421.

℞ Sodii phosphat.................. ℥ ss.;
Aquæ bull...................... ℥ jss.;
Ext. cascar. sagrad. fl............. ℥ ss.;
Elixir aurantii.............. q. s., ft. ℥ iv.
M. Ft. sol. Sig.: One ounce at bedtime.

Sulphur is a mild laxative, producing semi-liquid stools. It is adapted to childhood, and is most pleasantly administered in the form of the compound licorice-powder.

Senna, manna, and calcined magnesia are other remedies in use for the constipation of children, especially by the laity. The latter is sometimes the nucleus for intestinal concretions. Especially in childhood should the greatest discrimination be employed in the selection of remedies for the constipated habit. Infants and children may usually be cured of this affection without the use of drugs. A careful and persistent investigation of the diet and of the stools will generally enable us to discover the source of the derangement.

Starr[*] recommends a confection of tamarind, senna, and tartaric acid, flavored with oils of anise and lemon.

Extract of malt is of service in teaspoonful doses, three times daily, administered in milk, and will sometimes prove curative. Occasionally its taste proves objectionable, but by a little persistence this may be overcome. Cod-liver oil in doses varying from ten to sixty drops, according to the age of the child, may also be employed. It is advantageous to alternate these at periods of a few weeks. It is often necessary to administer a number of drugs before we find the one most suitable to the case in hand, or to use them by turns, as the susceptibility to a particular one becomes lost by continued use. If the drug chosen possesses curative powers (and only such should be employed in habitual constipation), and if its administration is supplemented by proper hygienic measures, the dose may be gradually reduced, trusting to the bowel to act more and more, without artificial encouragement. We must judge of the value of the agent employed by its mode of operation. If, as says Sir Andrew Clark,[†] it succeeds in producing in a natural manner one moderate formed stool daily, it may, if necessary, be continued indefinitely without fear of injurious effects.

One word, incidentally, on the subject of hypodermic purgation. Various substances have been vaunted by different observers as being efficacious when introduced in this way. The most noted is sulphate of magnesium, which Luton[‡] stated, from experiments on himself and on his patients, provoked diarrhœic stool, when administered in injections of ten centigrammes. It has not proved equally successful in the hands of others. I have lately been making some experiments upon my own person with colocynthin, the glucoside of colocynth. I have employed it hypodermically in one-third-grain doses, dissolved in water, and combined with one grain of cocaine. Without this latter the injection is painful. In the course of three or four hours it has produced several diarrhœic stools. My experiments have not been sufficiently numerous, as yet, to enable me to draw any wide conclusions. The value, in some conditions of the body, of a drug which will produce prompt and thorough catharsis when introduced hypodermically, is evident.

Constipation is a common accompaniment of pregnancy. For its relief, the first indication is to correct all errors of diet, and to have articles of a laxative nature form a due share of the food taken. If medicinal interference is required, care should be taken to choose those remedies which are mild and unirritating. Some aperient mineral water may answer, or some confection, as of senna or sulphur. Enemata of soap and water are very useful, and are especially indicated in the latter months, when more violent remedies might bring on a miscarriage. Constipation following difficult labor is sometimes very prolonged,[*] and is best treated with enemata.

Women who have previously been regular often develop constipation at the menopause. In the case of a patient whom I am now treating, the reflex symptoms developed by fæcal accumulations were sufficient to excite the suspicion of uterine trouble. An eminent gynæcologist could discover, however, no womb trouble of any kind, while massage, electricity, a proper dietary, and the occasional use of the aloes, strychnine, and belladonna pill have greatly modified her condition. Tilt[†] mentions numerous cases of this kind.

To sum up: In acute constipation the best remedies are clysters, salines, and castor-oil; in those forms denominated "bilious," lavage, emetics and abstinence, and the use of cholagogues. Impaction of the colon results from causes of a chronic nature, but is apt to develop acute symptoms. Our chief reliance here rests upon intestinal irrigation. This should be employed in the manner indicated. In chronic constipation a thorough trial of all the hygienic and mechanical aids should precede the use of drugs, and, where recourse to the latter has eventually to be made, such aids are always to supplement all other forms of treatment. Medicines having a curative tendency should always be chosen in preference to those which merely relieve the symptoms. Enemata are also of great value here. Aloes, rhubarb, belladonna, strychnine, cascara, ipecac, physostigmine, ergot, and the occasional use of the salines, are the most efficient remedies of this class. Various combinations and alternations of these produce effects not otherwise attainable, but it is essential to bear in mind that our remedies should be directed to the cause and not to its effect. In constipation of a chronic nature large fæcal accumulations may occur at any time, and no examination of a patient is complete which does not include a careful exploration of the colon through the abdominal walls.

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[*] "Diseases of the Digest. Org. in Children," Philadelphia, 1886.

[†] Lond. "Lancet," Jan. 1, 1887.

[‡] "On the Purgative Effects of Subcutaneous Injections of Sulphate of Magnesium." "Bull. de la soc. méd. de Reims," 1873.

[*] See case of M. Martin, "Comptes rendus," p. 32.

[†] "Change of Life in Women," Philadelphia, 1883.

When constipation has been diagnosticated as the cause of the group of symptoms for which our aid has been sought, it is frequently very difficult, especially in the case of young women, to sufficiently interest the patients in their own cure. They are apt to view the attention to these details as in some measure humiliating. To such we can only quote the words of Maclaren: "Mind and body should be viewed as the two well-fitting halves of a perfect whole, designed in true accord mutually to sustain and support each other, and each worthy of our unwearied care and unstinted attention."

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OBSERVATIONS ON DIPHTHERIA; ITS COMPLICATIONS AND TREATMENT.*

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It is not my province to enter into any discussion here as regards the ætiology or pathology of diphtheria, nor is it my purpose to review the various methods of treatment. I shall confine myself to presenting, in as concise a form as possible, my personal observations and experience in reference to the disease, and to dwelling at some length upon the treatment in relation to its immediate complications.

To be brief, its ætiology is at present stated to be a germ exceedingly contagious and generally virulent in character, especially in its epidemic form; that in by far the larger number of cases this contagion, capable of reproducing the disease, is carried from one to another by some factor and in some form or other, while in others it has been reported as occurring spontaneously and in completely isolated places. Unfavorable sanitary conditions are no doubt strong factors in the ætiology of the disease. It is a fact that any undue exposure to colds, followed by coryza and its concomitants, in which the nasal and faucial tracts are in a condition of irritability and epithelial abrasion, renders one more susceptible of attack.

The occurrence of sudden epidemics or endemics, and even sporadic cases, can perhaps be explained by the contagion or germs remaining latent for a considerable period; then, favored by a peculiar and as yet unexplained atmospheric condition, a suitable nidus presents itself and the contagion is rapidly developed, spreading more or less with equal rapidity. It is undeniable that diphtheria is more fatal in proportion to the number of persons attacked than any disease prevailing ordinarily; thus it behooves us to give it our most earnest attention.

Whether diphtheria is primarily a local or constitutional disease is still a question to be decided by further research; at the same time we should not be led astray from the fact that the prevailing opinion at the present day is to the effect that it is primarily a local disease, betraying specific local manifestations and rapidly involving the general system. In opposition, however, to this view of the primary local origin of diphtheria is that of Flint and J. L. Smith, who regard it as a constitutional disease—in fact, an essential fever at its very commencement, the local affection being its anatomical characteristic, a simple manifestation of a blood disease. My own view of the matter, however, coincides with that of those holding the disease to be primarily of local origin. In some cases constitutional symptoms of the disease are met with which precede the local manifestations, and are frequently out of proportion to each other, while in others, and these more numerous by far, the local disease process is the earliest sign of the disease. In many instances we have met with grave cases of the disease in an advanced stage of local manifestation where the exudation was extensive, in which the general symptoms were so slight that no serious illness was suspected. Its invasion is frequently insidious, no ground for suspicion arising, the symptoms apparently attracting no attention until the local disease has made considerable progress; especially is this so in nasal diphtheria. Prodromes may be more or less marked; in many cases they are, as previously stated, apparently absent and attention attracted only after the membrane has already formed, and one finds himself face to face with the fact that the disease is well advanced. Other cases are of such mild character as to cause doubt of any requirement for direct treatment; it is in these apparently mild cases that one is very apt to err. The larger number of cases of diphtheria, however, are ushered in by signs of acute inflammation, with more or less pain or difficulty in swallowing; membrane forms rapidly on the tonsils, extending with great rapidity to the fauces, frequently to the larynx and nostrils. Occasionally the larynx is primarily affected, with or without extension upward; the same may be said of the nasal form of the disease. In suspected cases, when of a primary nasal or laryngeal form, the rhinoscope or laryngoscope will be found of material advantage in arriving at a satisfactory diagnosis.

In epidemics or endemics of diphtheria, where the tonsils and fauces are merely inflamed, one may anticipate its being diphtheria, but no positive diagnosis can be made until the appearance of the exudate either in punctated lenticular spots or a more marked form. It is very frequently the case that the beginning exudation is more marked on one side than on the other. In mild types of the disease there is a greater liability to its extension into the larynx, because of its supposed innocuousness and the consequent freedom and exposure of the patient. Where the disease is protracted or a relapse occurs, the nasal passages will frequently be found to be the seat of the disease, even though there is a slight or no indication of the affection in the throat.

In the form of diphtheria called *catarrhal*, where the disease seems to be aborted in its first stage, no lymph exudate or false membrane making its appearance at all, one can not assert positively that the disease is diphtheritic in character even when one's attention is aroused by the proximity of undoubted cases of the disease; though it is well to anticipate it under the latter circumstances, there is little sense in causing needless alarm, as is frequently the case. An ordinary catarrhal pharyngitis or amygdalitis may be confounded with or mistaken for this somewhat rare form of the disease, and *vice versa;* the occurrence of the characteristic paralyses later on no doubt verifies the diagnosis of catarrhal diphtheria. Mild abortive attacks of nasal diphtheria are no doubt occasionally placed in this category of the catarrhal form.

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* Read by title before the Medical Society of the State of New York at its eighty-first annual meeting.

Again, no doubt, a number of cases of amygdalitis—where the initial symptoms appear as rapidly as in diphtheria, with the formation of small grayish-white spots on the tonsils, but sufficiently numerous to make it appear as if some have coalesced to form a rather distinct membrane—have been hastily and carelessly glanced at and as rapidly diagnosticated as diphtheritic amygdalitis, and, the natural tendency being toward recovery in all cases, have been reported as recoveries from diphtheria. A mistake in diagnosis of this kind is pardonable compared with that of mistaking a true diphtheritic amygdalitis, light in character, with no extension of the membrane into the fauces, which occasionally is the case in simple though severe amygdalitis.

Nevertheless, this similarity of mild cases of tonsillar diphtheria and severe amygdalitis is evident and very puzzling at times, and one may easily mistake one for the other if not careful. Complications may or may not occur later on, as in the catarrhal form of the disease, to verify the previous diagnosis.

There is an additional danger to be guarded against in the mild forms of diphtheria, so apparently innocent in character, in that they may offer a contagion very severe in character to persons having been in immediate, or even mediate, contact with the patient.

It may truly be said that enlargement of the glands about the neck is in just proportion to the extent and severity of the local disease. This statement is confirmed by Dr. Winters, in a recent paper, in the following words: "Swelling of the cervical lymphatics is not a necessary attendant on diphtheria, and does not depend upon the character of the affection, but rather upon the amount of disease in adjacent structures." Dr. Jacobi, in a recent paper upon "Follicular Amygdalitis," has also expressed a similar view.

When the diphtheritic exudate occurs primarily in, or extends to, the nares, the lymphatics being there abundant, glandular enlargements are developed and septic trouble or toxæmia occurs, due to rapid absorption of the poison; when occurring upon the tonsils only, it is apparently innocent in character because of the slight lymphatic connection of the latter.

Severe as the local affection often is, and dangerous and difficult as it may be to treat, yet the constitutional symptoms form a large and important part of the morbid manifestations generally, which demand our strict attention. They have this peculiarity, that not only do they manifest their presence generally at the outset of the disease, often indeed with such severity as to destroy life before the local manifestations have had time to fully develop, but also tend to show themselves at later periods, when the local disorder has passed away, when in many respects the patient might otherwise be considered to have recovered, and when serious results were no longer dreaded.

The influence which the diphtheritic poison exerts upon the constitutional powers is essentially of a depressing character, in both the earlier and the later stages of the disease. That this depressing influence, which appears to be chiefly upon the nervous system, continues beyond the period of the acute stage is manifested in the sudden and apparently causeless sinking and death which has frequently supervened in the course of what appeared to be rapid convalescence; that it is also active at a still later period is shown by the occurrence of various forms of paralyses, and that these paralyses are due to the presence in the system of a peculiar morbid poison, its special affinity being for the nervous system, is evident by the general vital depression and subsequent more or less complete suspension of the functions of particular nerves or systems of nerves.

The greatest danger in diphtheria lies in the fact of the absorption of the poison into the system, producing a condition of toxæmia, frequently followed by a fatal result.

This toxæmia is generally very insidious in character, and is frequently passed by, or at least the general treatment is relaxed, because of the disappearance of the greater part of the local disease process, until too late to recuperate the failing powers, and the insidious poison acts directly upon the heart, gradual asthenia resulting.

The frequency of deaths from diphtheria, in cases apparently light in character, is perhaps due to failure to grasp the situation, in that these so-called light cases are passed by without giving that strict attention necessary in all cases of this dreaded disease; in other words, overconfidence rather than negligence is frequently the true cause of the patient's death. Then, again, cases will be met with quite often of a type necessarily fatal under any plan of treatment, even with the most careful attention.

Primary laryngeal diphtheria at times simulates very much that allied disease, which from a clinical standpoint is, by several prominent writers, stated to be a like disease—membranous laryngitis or true croup, no real differential diagnosis, in their opinion, existing between them. It is even stated that the paralytic sequelæ of diphtheria have also been met with, though rarely, after membranous laryngitis.

Taking it from a pathological standpoint, the separate existence of these diseases seems evident, the reverse, however, being the case clinically. Flint states that pseudomembranous laryngitis as a complication of diphtheria is not an infrequent occurrence; nor is the fact of such complication inconsistent with the belief that they are distinct diseases.

Secondary diphtheria, characteristic mainly of and not an uncommon complication of scarlatina, is quite often met with; it is characterized by the same phenomena as in the primary form of the disease, and offers perhaps greater difficulties in its treatment, especially because of the weakened condition of the patient from the preceding disease.

To quote from an article on diphtheria in a Western medical journal, that "the severity and mortality of the disease can be readily controlled if detected and treated sufficiently early, and the disease could, therefore, be regarded as one of the most trivial of throat affections, with here and there a grave exception," seems to me rather an extreme statement of the case—one that, I regret to say, has not as yet been borne out by even the improved and numerous later additions to its method of treatment.

The "here and there grave exceptions" have certainly proved more numerous than the trivial ones, as can readily be made out by statistics.

There is a principle in medicine which teaches that any existing general influence may make itself felt more on some parts than on others, the selected parts appearing peculiar in their distribution and character, the mode of action of this general influence being thus considered a specific one. This applies equally well to the regional paralysis of diphtheria. Local or partial paralysis, showing itself in various forms, has frequently been observed as one of the characteristic sequelæ of diphtheria; the muscles of deglutition and articulation are most frequently affected and generally before its occurrence elsewhere, quite in keeping with the fact that these muscles are in direct contact with and thus related to the local poison; it is denoted by dysphagia, nasal sound of the voice, and some thickening in speech, as also regurgitation of liquids through the nostrils.

This paralysis is either the result of the local affection early involving the soft palate, or attributed to anæmic and other deteriorations of the blood—in fact, a toxæmia affecting especially the nervous system, showing itself at times at the end of the fourth to the sixth or seventh week. It is not infrequently the case that where the local affection is least pronounced one will find paralysis occurring. In this connection, therefore, it does not necessarily follow, as stated by Senator, that "all paralyses must proceed directly from the palate and the posterior wall of the pharynx or fauces, and not from the diphtheritic toxæmia." Were this the case, a close relation should exist between the character and extent of the local primary affection and the rapidity of the secondary affection or paralysis. Diphtheritic toxæmia and subsequent paralysis, occurring weeks after the disease and its local manifestations have disappeared and the patient has been pronounced well, can not be explained in this manner.

Where paralysis is detected in the extremities, it is from the beginning more general than it appears to be; the paralysis in the upper extremities, though at times equally developed as in the lower, escapes detection for the time being, because of the greater stress of work put upon the muscles of the lower extremities when the patient is in the erect posture. Paralysis is, in my opinion, thus manifested earlier in the lower extremities, seeming to progress upward. The paralysis generally occurs gradually, with a sensation of pricking or numbness in the region of the affected muscles; occasionally the paralysis is very rapid in its progress. The affected muscles or sets of muscles occasionally undergo atrophy, even to a marked degree.

Why paralysis of one set or several sets of muscles, especially of the lower extremities, should occur independently while other sets of muscles escape, is yet to be explained correctly. Paralysis of the ocular muscles is said to be of rather frequent occurrence; I have as yet failed to meet with such a complication.

In many fatal cases of paralysis complicating diphtheria but a short time intervenes between the appearance of the paralytic symptoms and death; in one case in which I was called in consultation, where the muscles of both the lower extremities as well as those of the pharynx and larynx were affected, the child died four days after the appearance of the paralysis, death being due, no doubt, to rapidly supervening cardiac paralysis.

The importance of renal complications, as indicated by albuminuria, is no doubt due to early involvement of the general system, perhaps directly due to the diphtheritic poison entering into the blood. I can not, however, agree with those who assert somewhat positively that albuminuria is generally if not always met with in diphtheria, and that the percentage of albumin in the urine is in direct ratio to the severity of the disease. In several cases of diphtheria occurring in my own practice, where the urine was examined for albumin, in only one was albumin distinctly detected. I am of the opinion that albuminuria as a complication of diphtheria is not of such frequent occurrence as supposed, for the following reason: Where the disease does not extend beyond the tonsils and the adjacent portion of the pharynx, being tonsillar in character, albuminuria will rarely be found to exist. On the contrary, where the posterior nares are implicated, with more or less marked cervical adenitis, showing absorption of the poison through the lymphatics, albuminuria more frequently exists. When the disease is specially of a very acute character, with marked pyrexia, albuminuria will even more frequently be met with.

In secondary diphtheria, that complicating scarlatina, albuminuria is met with more frequently and to a greater extent than in the primary form of the disease. Otalgia and otitis media are frequent though not serious complications; although at times protracted, they, as a rule, yield to appropriate treatment.

Before entering upon the subject of the treatment of diphtheria, let me give in short detail the history of an interesting and remarkable case of diphtheritic toxæmia, with complicating paralysis, ulcerative dysentery, and otitis media, marked by protracted convalescence:

A boy, aged nine years, of strong and healthy constitution and very intelligent, was attacked with scarlatina of a severe character, and five days later diphtheritic complications arose; an irritating discharge exuded from the nostrils, with some pain and difficulty in swallowing. Examination revealed marked inflammation about the fauces and naso-pharynx, with small, grayish-white lenticular spots, partly coalesced, upon the tonsils. A rise in temperature was coincident with this. These spots rapidly coalesced, forming membranous patches, and having in the mean time extended to the soft palate, pharynx, and nasal passages, partly occluding the latter; cough quite frequent, expectorating a transparent viscid mucus which constantly collected; tongue quite dry also, due to faucial respiration; the glands about the neck became very much enlarged and very painful, followed by deafness and, later on, a discharge from both ears. By appropriate treatment the diphtheritic membrane in the course of eight days disappeared from the fauces and naso-pharynx, the voice becoming less nasal in tone, evidently showing no sign of implication of the larynx. I was congratulating myself, therefore, that the child was rapidly recovering, and would not contract the more dreaded form of laryngeal diphtheria. I had calculated without mine host, as, on the third day after its disappearance from the fauces, symptoms of laryngitis supervened, and, upon laryngoscopic examination, a slight exudation was detected upon the larynx. This insidious reappearance of the disease was followed several days later by some paralysis of the muscles of phonation and deglutition. To this was added a paralysis of the muscles of the soft palate, which caused liquids when swallowed to be partly regurgitated through the nostrils. There was at that time no especial pain in swallowing, still he refused to take any liquid food or medicine unless given through a tube, because of its regurgitation through the nostrils. Articulation was also imperfect.

The third day following its reappearance I was called in haste, because of great distress in breathing. Familiar at the time with intubation of the larynx, but having had no personal experience with it, I went prepared for the immediate performance of tracheotomy. The symptoms upon my arrival not warranting its immediate performance, I decided to await further developments; an emetic, however, was administered, which afforded some relief. Having had but recently some trypsin sent me, and being anxious to test its efficacy as a solvent of diphtheritic membrane, I determined to give it a trial. It certainly acted wonderfully well, pieces of membrane being loosened and brought up with the brush, as well as coughed up. The dyspnœa gradually decreased, and the need for surgical interference was averted, showing the wisdom of not being hasty in such interference. A dysentery, the evacuations consisting mostly of small shreds of membrane and mucus tinged with blood, was now inaugurated, which was very protracted and weakening to the patient, ordinary astringents seeming to have but little effect upon it. The discharges becoming more frequent and the patient becoming rapidly emaciated, some means other than by the mouth had to be resorted to to check them. The bowels were irrigated first with a cleansing and antiseptic solution of boric acid, followed by a clyster containing especially nitrate of silver, repeated after each second or third discharge, depending upon the frequency of the discharges daily. To add to the severity of the case, aside from the patient's resistance to the taking of nourishment by the mouth, nausea and vomiting made their appearance in a somewhat obstinate form, precluding the further administration of nourishment by the mouth. Enemata had to be resorted to, which were but now and then retained. A gradual decline was apparent, and a fatal issue regarded as almost inevitable. Seemingly at the last moment, the vomiting ceased, and another effort or two to force down very small quantities of milk and whisky through a tube happily met with success, and from that moment a change for the better was inaugurated. The dysenteric discharges being checked and the enemata retained, his condition gradually but steadily improved. Although emaciation was extreme and convalescence prolonged and tedious, his appetite was something extraordinary, even to rapaciousness. The highest temperature reached in the course of the disease was 102° F., although in that of the scarlatina preceding the temperature rose to 104°. Some anæsthesia of the fingers and palms of the hands, as also of the soles of the feet, was present in the later stage of the disease, but gradually disappeared. A slight thickening in speech remained for several weeks after he was up and about. The urine was at no time albuminous during the existence of the diphtheria, and but slightly so toward the close of the scarlatina.

There is no doubt that in the dysenteric discharges we had to deal with a gradual destructive ulcerative process, which the diphtheritic poison seemed to impart, at the same time being but another channel for eliminating from the blood the effete and poisonous material with which it was surcharged. This case, for its severity and protractedness, the critical condition of the patient, the number of complications arising, and preceded by a severe attack of scarlatina, illustrates in a striking manner the fact that recovery may take place under proper treatment combined with assiduous nursing, and without the need of surgical interference.

The indications for treatment are mainly to restore to health the tissues bearing the local manifestations of the disease, but at the same time increasing the functional activity of the emunctories. A true regard for the general condition of the patient is also to be observed. The appropriateness and efficiency of drugs involve also the question of correct administration, in that they should produce in an efficient manner the therapeutical result desired. In the treatment of the disease the thought should not alone be with the patient affected, but should have reference to guarding against contamination or spreading the contagion to others; the greatest circumspection should therefore be exercised. Prophylactic or sanitary measures are therefore a prominent feature of almost equal importance to the local and constitutional treatment. Isolation must be strictly enforced, and all unnecessary articles of clothing, furniture, and the like, should be removed from the room; the sputa of the patient should also be disinfected. It has but recently been stated, in a prominent medical journal, that "the inefficiency and harmfulness of all local treatment which looks to the removal of the diphtheritic membrane from without is apparent when we consider that such therapeutic energy is expended upon the product of the disease instead of upon the disease process"; furthermore, that it is "just as irrational as to expect that the removal in this manner of the inflammatory product which is constantly welling up out of inflamed veins is curative." This reasoning by analogy no doubt is due to its being looked upon as a disease primarily constitutional in character; nevertheless, it seems to warrant the following question: Is it irrational to use local measures to soften and detach the rapidly accumulating fibrinous membrane, especially where it clogs the larynx and, for that matter, the respiratory tract in general? Believing, as I do, the disease to be of local origin' I contend that the rationality of the procedure is beyond question, as borne out by daily experience; added to this is the fact of a notable reduction in temperature following the application of such effective local measures.

Again, the writer quoted, standing almost alone in his convictions, takes exception, in this enlightened age, to the tonic-stimulant treatment of diphtheria, "feeling justified in stating that it is in a large measure injurious, and responsible for many fatal cases occurring." How he can reconcile his convictions with the every-day fact before us of the more or less rapid failure of the vital powers in a large number of cases of diphtheria is beyond my comprehension.

A great deal of time and space might be devoted to the consideration of many remedies lauded in the treatment of diphtheria, but I shall confine myself only to those which I deem, as shown by experience, to be of practical value and based upon rational therapeutics. Much depends upon ascertaining with precision the nature of the case, the state of the vital powers, and the disposition to certain complications. The employment of measures which depress the system is contra-indicated, and should be seriously deprecated. According to J. L. Smith, "early and repeated local treatment of the inflammation does not prevent the occurrence of symptoms of septicæmia in all cases of a severe type." This I have found to be a fact, as in the case above recorded, which happily, however, as stated, terminated in recovery. The constitutional treatment should therefore, from the very first, be continued uninterruptedly, as also for some time after the local disease process has apparently disappeared, to guard, if possible, against any complicating paralyses later on.

The enforcement of absolute rest in bed from the very beginning of the affection until convalescence is fully established is a great factor in aborting the disease and hastening the recovery of the patient. Where the disease appears insidiously mild in character, treatment is generally less active, the poison being eliminated slowly, and consequent complications and relapses are more frequent; nor can one always be guided by the temperature as to whether the disease will subsequently be of a mild or virulent character, the temperature being at times but slightly raised when the disease takes on a most virulent form. Adynamia, or a disposition to cardiac syncope, may be regarded as characteristic of the disease itself, and the physician should always keep this fact in mind. Except in those of a scrofulous or syphilitic character, the free use of preparations of mercury, such as calomel and corrosive sublimate, but recently recommended, is of doubtful utility, and, to a great extent, dangerous even in sthenic cases, not alone as regards the danger of salivation, but chiefly because of the depression and debility produced; that calomel, however, given in minute doses, and repeated sufficiently often to act as a derivative and eliminant by its peristaltic action, is of undoubted utility, I freely admit.

In the early stages of the disease a cleansing and disinfecting mixture containing carbolic acid or thymol, chlorate of potassium, and glycerin, will be found of excellent service previous to the application of more direct and stronger local measures; the addition of lime-water to this mixture increases its cleansing effect, its action as a solvent of the fibrinous membrane being very slight. When a marked fœtor of the breath exists, arising from a decomposition of the exudate, especially apparent when the latter is profuse, a mild solution of chlorinated soda may be used either as a spray, with a brush, or as a gargle. Heat applied in various ways is a very useful and one of our most reliable agents in diminishing the hyperæmia and subsequent exudation, and thus the tendency to the extension of the disease process. The beneficial influence of steam inhalations or spray is explained by the fact that, as they come in immediate contact with the mucous passages, the exudation is softened, a condition increasing and favoring the chances for its easy removal. A solution of trypsin, recently prepared and slightly warmed to increase its activity, acts in a similar manner, with the additional fact of dissolving a portion of the fibrinous exudate; this can readily be seen by brushing the surface freely, or spraying it, every fifteen or twenty minutes, when portions of the membrane can be removed very readily by means of a brush or probang. Trypsin, by its rapid solvent action, and added to that its antiseptic properties, greatly checks decomposition of the membrane when applied freely from the very commencement of the appearance of the exudate; the probability of subsequent toxæmia may be said therefore to be greatly lessened.

In the course of my use of trypsin my attention was drawn to the fact of a notable reduction of the temperature when the pyrexia was marked, no doubt due to its softening and solvent power upon the diphtheritic membrane and the removal of it in great part; my attention was drawn to this fact by the observations of Finkler and Rossbach, as also Jacobi, in the use of papayotin in diphtheria. The evidence of its utility and successful application in the cases occurring in the course of my practice is sufficient to warrant its having a more extended trial, and I have but to congratulate myself on the results obtained. When it is properly and constantly used, intubation of the larynx or tracheotomy in laryngeal diphtheria will much less frequently be indicated or resorted to.

It is very possible and plausible that infection may be carried beyond the glottis by a too free use of solutions, especially by means of the brush, as has been suggested; I am not aware, however, of this having ever been proved to be the case. I am, however, well aware and not unmindful of the fact that no true estimate can be formed of the value of any particular method of treatment where its practice has been confined to a limited number of cases. In my dispensary practice a twenty-per-cent. solution of Monsel's solution of subsulphate of iron was applied with a brush directly to the false membrane, but I have certainly failed to meet with the success attained by the use of trypsin. This may, perhaps, be accounted for in great measure by a failure in carrying out strict directions—a failure accounted for, no doubt, through negligence or ignorance mostly, among the poorer classes generally.

Where the accumulation of mucus is great and expectoration difficult, especially in laryngeal diphtheria occurring mostly in young children, an occasional emetic may be resorted to with advantage.

In many cases of the disease there is no direct process of repair, ulceration after detachment of the membrane not being present; in others, ulceration is slight and more or less superficial, with rapid restoration of tissue; still other cases are met with where the reparative process is very protracted, as in a case of mine where a relapse occurred, some twelve days elapsing before restoration of tissue to the normal. When convalescence is protracted and more or less marked ulceration exists, the application of a mild solution of nitrate of silver (gr. x to ℥ j) greatly hastens the healing process. I have tried it in three such cases, obtaining good results in each.

The subject of intubation of the larynx, of so recent date, is one of great interest and demands some attention here. From the experience of those to whose credit its successful introduction is due, one can not but be favorably impressed with this novel procedure as a substitute for tracheotomy; there can be no doubt that this procedure is far superior to tracheotomy and fraught with little danger in comparison. The results in diphtheria have been somewhat better than those of tracheotomy, but even here the question arises whether a large number of the patients might not have recovered without its performance. That intubation of the larynx, as indeed all new procedures, will no doubt hereafter, as heretofore, be performed rather frequently, is evident, especially as it is apparently so simple in its performance, and with little if any danger attached to it. In diphtheria it will no doubt be resorted to early and often, and when perhaps but little indication is offered for its performance; the apparent unreliability of statistics, in so far as regards successful results, can perhaps never be more clearly demonstrated than in intubation of the larynx in diphtheria, performed early, perhaps unnecessarily. Be this as it may, intubation of the larynx is most certainly a marked advance over tracheotomy in the treatment of laryngeal obstruction, and great credit is due to Dr. O'Dwyer for his ingenuity and perseverance in successfully achieving results in this direction.

Though apparently doing no harm, the elation founded upon its successful results may throw one off his guard and less attention be given to the more immediate treatment of the disease from its very outset, having reference to the riddance of the membrane and subsequent absorption of its toxic properties, thus greatly complicating the disease. The method of introduction and extraction of these laryngeal tubes is no doubt at present familiar to all, and needs no description upon my part except to state that, to be in the main successful, the tubes should be of sufficient length and proportionate to the age of the patient, which is an important feature. Intubation is no doubt destined to be employed more generally than tracheotomy, especially in cases in which the obstruction is limited to the larynx and trachea. I find it stated that there is no bar to the performance of tracheotomy subsequent to intubation, where the latter fails to afford permanent relief to the dyspnœa and its causation; this is evidently true, but I fail to see the necessity for the performance of tracheotomy for the relief of a complication in which intubation, if properly performed, affords no relief.

Intubation of the larynx, as also tracheotomy, is indicated only where the mechanical obstruction in the larynx or trachea is so great as to interfere markedly with respiration, and to avoid the distressing scene of death by asphyxia. Prominent authorities, such as Flint and Gross, state also that tracheotomy in diphtheria is justifiable because affording relief to the sufferings of the patient and contributing to euthanasia. It is especially in cases where the symptoms of exhaustion are more prominent than those of suffocation that intubation of the larynx rises above tracheotomy. While far from condemning tracheotomy, I can not agree with those who defend its early performance on the ground that it is not then and in itself a serious operation; it is always, in diphtheria especially, a dangerous one.

Otalgia and otitis media are frequent though not serious complications, and, as a rule, readily yield to appropriate treatment; where the discharge from the ear is quite profuse, syringing with warm water and insufflation of boric acid will be all that is necessary.

To prevent the depressing effects of the poison generated by the growth of the diphtheritic process, stimulants, as also tincture of the chloride of iron and chlorate of potassium, are early indicated.

The injudicious administration of the tincture of the chloride of iron, which frequently acts as an irritant in the later stages of the disease, especially when given upon an empty stomach and without reference to the indications furnished by the individual case, no doubt works injury to the patient. As a substitute for the latter, therefore, I have found the pomated tincture of iron to agree very well, as it is non-irritating in character.

In reference to the beneficial effects from the internal administration of chlorate of potassium, it is probably due to its decomposition in the system with the liberation and introduction of free oxygen into the blood; this, at least, is the view taken by clinicians generally at the present day.

Free stimulation, judiciously employed, is certainly rational, counteracting the insidious and prostrating poison and sustaining the vital powers; rapid and fatal cardiac failure occurs quite unexpectedly and suddenly at times, even during convalescence; it should be guarded against as much as possible by free and judicious stimulation.

In severe cases of diphtheria there is little if any danger of over-stimulation, the danger being rather in insufficient stimulation, as it is indeed surprising how much can be borne by the system without any ill effects. It may perhaps be said that alcohol is a heat depressant; but then it should be remembered, according to recent authorities and in the light of recent research, that, aside from its stimulant action, alcohol is also entitled to be reckoned as a food, being almost wholly consumed within the organism, thus prolonging life.

Digitalis and carbonate of ammonium, given in combination with either whisky or brandy in asthenic cases of the disease, will be found of great service. Stimulants can, especially in children, be given better in milk, slightly sweetened if desired. Champagne I have found to agree very well where the stronger alcoholics were not retained, either because of a peculiar idiosyncrasy or an irritability of the stomach, with accompanying nausea or vomiting. That attention should be paid to the condition of the skin and kidneys as well as the bowels is evident, as it is through these channels mainly that the *materies morbi* is eliminated. Diaphoretics, sedatives, and diuretics, aside from mild purgatives, are especially indicated in the earlier stages of the disease; in addition, where the increase of temperature is marked, tepid spongings will be found very serviceable.

Proper nourishment will be found most serviceable when given in small quantities at a time and frequently repeated; where the patient refuses to take milk or has an aversion to it, I have found ice-cream to agree very well. Beef-tea, when made from the ordinary beef extracts in the market, has very little nutritive power, being merely stimulating in character; one preparation, however, called the "Leube-

Rosenthal" extract of meat or meat solution, has given very good results in my hands.

And here I would say a word in reference to and in favor of rectal alimentation as well as rectal irrigation. Where the stomach fails to perform its proper functions or does so with great difficulty and imperfectly—the main indications—recourse may be had to alimentation or medication *per rectum.* The importance of nourishing patients by the rectum and the absorptive powers the latter possesses has not been generally recognized, and insufficient attention has been given to its many advantages. It is unnecessary to give in detail or review the many advantages this method possesses of administering nourishment and non-irritating medicines; suffice it to say that they are so great that its practice should be more strongly advocated and more frequently resorted to; the introduction should be gentle and slow, at the close of which the nates should be held together rather firmly for several minutes to guard against immediate escape of the enema. Where accumulation of fæces is supposed to exist, the rectum should be freed of such, and occasionally cleansed by irrigation with warm water previous to administering the nourishment.

As to rectal irrigation, or rather irrigation of the lower intestines, its application in profuse diarrhœal or dysenteric discharges has a marked soothing effect upon the lower intestinal tract; the tenesmus accompanying dysenteric discharges is relieved almost immediately. In accumulated or impacted fæces the solid ingesta are softened and rapidly removed; inertia of the bowel is also overcome, thus promoting and increasing peristaltic action. The bowels should be irrigated with water medicated or not, either warm or tepid, the temperature varying in degree to meet whatever indications present themselves; the hips should be raised by placing a pillow underneath to allow the fluid to be better retained; rubber cloth should be placed between the buttocks and pillow to avoid wetting the bedding.

A NASAL CUTTING-FORCEPS AND BLOODLESS NASAL OPERATING.

By A. B. FARNHAM, M. D.,
MILWAUKEE, WIS.

The instrument shown below has been of service to the writer, and is presented in the thought that it may help others.*

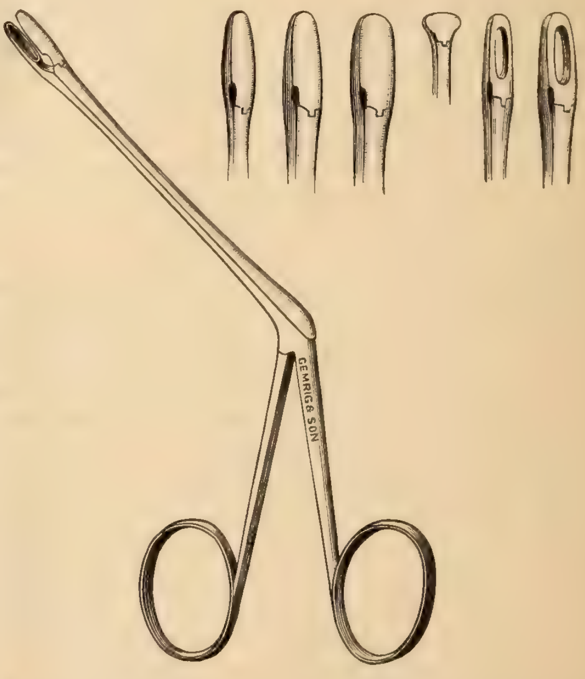
One great need in nasal work is that the operator should see what he is doing, and, other things being equal, that is the best instrument which least obstructs the vision.

A set of special burrs made for the dental engine gave me vision, but a trained assistant was needed and the work had to be finished by other aids, and the personal equation remained unsatisfied till I had these instruments made. Have been using them nearly a year, and, in addition to giving perfect vision, they enable one to operate with great rapidity. Have attempted no operations against time, but can and have repeatedly removed within a minute the ordinary ridge on the septum of an inch or an inch and a half in length. Over the saw it has the advantage of causing far less shock, of injuring in the operation no other tissues than the ones attacked, of going around a corner and finishing at once what may require a second or third operation, and, on the other hand, the disadvantage of not being able to take off a growth of broad base. But then they were never designed for this work. For them I have used and still use the burr, or the saws, of Dr. Harrison Allen, and since their publication those of Dr. Francke Bosworth.

Over Dr. Jarvis's set of instruments they have the advantage of giving better vision, and are of easier introduction and removal. They do not catch, and are preferable for trimming after the use of the burr. The smaller ones are so delicate that one can reach any portion of the septum, however high, and sufficiently strong to remove any growth suitable for the instrument with greater accuracy and rapidity than by means of burrs. A very great practical point is that with these smaller ones one can probe as well as crush. A competent experience of two years with burrs made for me of special length and fineness led me to discard them in favor of these instruments. Again, one can control their action better than that of the burr. With the burr, too, one can not probe.

They are useful for removing portions of the turbinates. The one with the broader end was designed for work upon the middle turbinates. After destroying the overlying tissues, one nips off just the desired portion.

Twice within three days I have found them useful in removing a portion of the cartilage for stenosis at the orifice. Pulling the tissues well down that the cut might be made through the mucous membrane under cocaine, and then cutting down with the galvano-cautery knife, I have removed what cartilage was deemed necessary, the blades of the forceps acting very well as spuds as well. Both operations were bloodless.



Most of the operations within the nasal cavity should be bloodless. Many women and children are shocked at the sight of blood, and no one really enjoys bleeding, and, besides obstructing the view, hæmorrhage renders our work more tedious and less exact. Cocaine enables us to do almost everything without ether, and therefore makes more demands in other directions than were formerly made. Let the surgeon save himself, too, all he can. The more he works at ease the less the nervous output.

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* A gnawing forceps is not represented.

By treating the growth on the septum, or portion of turbinated tissue, to be removed first with chromic or other acid and then with the galvano-cautery as an additional precaution, most of the ordinary work can be done without hæmorrhage. If not practicable to treat all the surface, touch the presenting portions, and better vision is gained, even if there is slight hæmorrhage.

While presenting a nasal instrument, I would yet again * protest against removing all abnormities on the septum. Very many of them are harmless and should be let alone, and others need not be removed wholly but only in part. The abnormalities have often so modified the adjacent structures that no good can come from surgical interference, but positive harm by making the passages too patent. We have had enough of anatomical surgery.

KELOTOMY,

COMBINED WITH RADICAL OPERATION,

FOR STRANGULATION IN A CHILD SEVEN MONTHS OLD.

CURE.

By WILLIAM WOTKYNS SEYMOUR,
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January 24, 1887, Tommie D., aged seven months, was brought to my office by his mother, who stated that from birth he had had a scrotal hernia of the right side, and that heretofore she had always been able to reduce it. This morning, however, she left the child in the care of a sister, and he cried a great deal. On her return from work, after several hours she found the child feverish and crying constantly. Examination by her revealed the right side of the scrotum distended to the size of a medium pear, tense and painful. Her own efforts being ineffectual, she brought him immediately to me. I gave chloroform, but was unable to effect reduction by taxis. Finding that I could not reduce it, I, a half-hour later, when my office hours were over, gave the child chloroform, and, after brief and ineffectual taxis, did kelotomy. Even after opening the sac and incising the ring the gut could not be reduced, and it was necessary to break down some adhesions immediately behind the ring. The gut, previously dark-purple in color, became almost normal, and was easily reduced. I slit up the whole length of the sac, and, after stitching up the pillars of the ring with strong juniper catgut, ligatured the neck of the sac and dusted iodoform into the wound. The wound I closed with a deep continuous suture of juniper catgut. Over this I dusted iodoform liberally, and applied a pad of absorbent cotton and a spica. Ether and bichloride solutions were used to clean the skin and irrigate the wound. There was absolutely no fever at any time after the operation; the bowels moved the next day naturally; the bandage and dressings, having become soiled, were changed the fourth day, and union was perfect. To-day the cicatrix is firm, and there is not the slightest evidence of recurrence.

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THE NEW YORK ORTHOPÆDIC DISPENSARY AND HOSPITAL.

The article with which this issue of the journal opens seems to us of interest not only as tending to throw a clear light on the ultimate amount of good done by the mechanical treatment of hip-joint disease when judiciously and assiduously applied, but also as illustrating most forcibly the extent to which intelligent discrimination can make moderate funds go in alleviating the condition of patients with that disease among the poor. It is comparatively an easy matter for a hospital surgeon to keep an institution's beds filled with patients whose cases show points of interest for his own study or that are advantageous as texts for clinical teaching, or afford unusual promise of brilliant results from treatment. It is easy to do this, and not very difficult to satisfy one's conscience if other applicants are told that the house is full, or that their cases are not suitable for treatment in it, and are left to do the best they can under the circumstances. If the medical officers of the New York Orthopædic Dispensary and Hospital had seen fit to pursue this course, they would probably not have incurred unfavorable comment, for the temptation to do so is a very natural one. Practice in the wards is so much more easily attended to and so much more satisfactory in its results than practice in an out-patient department that the tendency of hospital men to ignore the latter is not strange; it is simply a manifestation of ordinary human nature. It is therefore all the more to the credit of the medical staff of the institution in question that they have taken the enormous amount of additional trouble that must have been involved in the treatment of patients at their own homes on the scale required to furnish the data embodied by Dr. Shaffer and Dr. Lovett in their article.

That, of the forty-one persons who recovered under this form of treatment, not one now shows evidence of active tubercular disease, or is incapacitated from doing a full day's work at his or her occupation, whether that of a printer, a glazier, a machinist, an errand-boy, a shop-girl, a dressmaker, or a public-school pupil, shows most pointedly the wisdom with which the institution has been managed and the faithfulness with which the medical officers have sought to give these poor persons the full benefit of its resources. Although so much has been accomplished in the dispensary department, and to that extent the money necessarily devoted to the in-door service husbanded, the fact should not be lost sight of that, in orthopædics, even an out-patient service is expensive. Suitable apparatus is costly; for the most part, it will not do to make it in large lots, trusting to any system of variety in shape or gradation in size, but almost every piece should be made to conform to the peculiarities of some individual patient. This involves work done to order by skilled artisans, extensive resources in the way of tools and machinery, a considerable stock of raw material, and close surgical supervision—all of which must make no little drain upon the pecuniary resources of the institution, besides taxing the sagacity of its managers. The fact that the New York Orthopædic Dispensary and Hospital has been able to carry out its beneficent purposes so completely and at the same time so economically as is shown by Dr. Shaffer and Dr. Lovett will, we trust, commend it still more to the attention of those who bestow a portion of their means upon our charitable institutions. That we have chosen to speak of this aspect of the subject does not argue that we have overlooked the scientific value of our contributors' article. From that point of view it needs no commendation; it speaks for itself.

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* See "N. Y. Med. Journal," July 7, 1886.

MINOR PARAGRAPHS.

DIPHTHERIA AND SANITATION IN MICHIGAN.

At the recent meeting of the Michigan State Medical Society, the State Board of Health presented an additional and striking illustration of the energy and intelligence with which it deals with matters pertaining to the public health. This was the secretary's demonstration, made most perspicuous by a tabular statement and a graphic chart, of the extent to which isolation and disinfection reduced the number of cases of diphtheria, and the number of deaths from the disease, in the various outbreaks reported by local health officers during the year 1886. In one hundred and two outbreaks in which there was a neglect of isolation or of disinfection, or of both, the average number of cases to the outbreak was a little over 16, and the average number of deaths 3·23; while, in one hundred and sixteen outbreaks in which both isolation and disinfection were enforced, the average number of cases was 2·86, and that of deaths 0·66. In other words, these simple precautions reduced the number of cases occurring during the year by 1,545, and the number of deaths by 298. It is much to the board's credit that it has been able to secure so general a practice of isolation and disinfection.

WHOOPING-COUGH IN THE CAT.

Mr. O. Bowen, a Liverpool surgeon, says in a recent issue of the "British Medical Journal" that for a few weeks he has had under his care a little boy suffering from an unusually severe attack of whooping-cough, and that the boy's mother informs him that for as much as a fortnight the family cat has had five or six distinct fits of coughing daily, similar in every respect to the boy's and ending in an expectoration of frothy mucus. The cat is said to be tolerably bright and active between the paroxysms, although she is not so lively as formerly, and has fallen away considerably in condition.

CALCINED OYSTER-SHELLS AS A REMEDY FOR CANCER.

In a recent number of the "Lancet," Dr. Peter Hood, of London, refers to a communication of his published in the same journal nearly twenty years ago, on the value of calcium carbonate in the form of calcined oyster-shells as a means of arresting the growth of cancerous tumors. In a case which he then reported, that of a lady nearly eighty years old, the growth sloughed away and left a healthy surface after a course of the remedy, as much as would lie on a shilling being taken once or twice a day in a little warm water or tea. He now reports another case of scirrhus of the breast, in the wife of a physician, in which the treatment was followed by an arrest of the growth and a cessation of the pain, the improvement having now lasted for years, and no recrudescence having thus far occurred. He urges that the remedy can do no harm, and that the *prima facie* evidence in its favor is stronger than that on which, at Dr. Clay's recommendation, the profession lately displayed an extraordinary eagerness to try Chian turpentine. He would restrict the trials to well-marked cases of scirrhus, and insists that no benefit should be looked for in less than three months.

THE MILK SUPPLY OF BOSTON.

The members of the Section in Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society recently took commendable action in passing certain resolutions regarding the supply of milk to the city of Boston. It appears by the preambles that a large part of the daily supply is from six to twenty-four hours old when it reaches the city, and that, owing to the inconvenient time at which the milk trains arrive and to the system of delivery in small service cans, the milk is detained twenty-four hours longer in the milkmen's barns and sheds. In the opinion of the members, this delay not only affords dishonest dealers opportunities to tamper with the milk, but often exposes it to insanitary influences, besides which its mere additional age is detrimental to the public health. The members therefore pledge themselves, and cause it to be stated in the newspapers, to exercise every proper influence to secure for themselves and the community milk that has not been subjected to this unnecessary delay.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 17, 1887:

DISEASES.	Week ending May 10.		Week ending May 17.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	4	2	8	1
Scarlet fever	52	11	77	9
Cerebro-spinal meningitis	8	6	2	2
Measles	69	8	102	8
Diphtheria	85	52	128	49
Small-pox	22	9	19	5

The Lawrence, Mass., City Hospital.—The medical staff chosen by the directors at their recent annual meeting was as follows: Dr. David Dana, president; Dr. O. T. Howe, secretary; Dr. David Dana, Dr. Cyrus N. Chamberlain, and Dr. George W. Sargent, consulting board; Dr. S. W. Abbott, Dr. Charles G. Carleton, Dr. Susan E. Crocker, Dr. John G. McAllister, Dr. O. T. Howe, Dr. C. C. Talbot, and Dr. Henry M. Chase, visiting board.

The late Dr. E. Darwin Hudson.—At a meeting of the faculty of the New York Polyclinic, held Thursday, May 12th, the following action was taken regarding the death of Professor Hudson:

> "The announcement of the sudden death of Professor Erasmus Darwin Hudson came upon us with such crushing effect that we have not yet had time to recover from the blow which overwhelmed us.
>
> "Just entering upon a period of mature middle life, when the student passes from experiment and crucible to philosophic thought and ripe judgment, he was well equipped to reap a rich harvest of new scientific knowledge to add to the general stock, but which is now lost to us forever.

"His honorable positions of visiting physician to Bellevue Hospital, chairman of the Section in Theory and Practice of Medicine of the New York Academy of Medicine, and professor of general medicine and diseases of the chest in the New York Polyclinic, afforded him rare opportunities, and gave his wide following of admiring disciples the means of becoming acquainted with and availing themselves of the rich store of practical knowledge which he had always so ready at hand. Thus deeply impressed, be it therefore

"*Resolved*, That the faculty of the New York Polyclinic are sensible that they have lost in Professor Hudson an able coadjutor, and a popular, gifted, and learned member; and that the graduate pupils in attendance from all parts of the country have lost an eloquent and skillful teacher, and all of us a genial friend."

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending May 14, 1887:*

Shafer, Joseph, Assistant Surgeon. Detached from the Minnesota, and ordered to the Ossipee.

Simon, W. J., Surgeon. Ordered to the U. S. Steamer Boston.

Henry, C. P., Assistant Surgeon. Detached from U. S. Naval Hospital, Philadelphia, and ordered to the Boston.

Means, Victor C. B., Assistant Surgeon. Detached from the U. S. Naval Hospital, Mare Island, and ordered to the U. S. Naval Hospital, New York.

Simons, Manley H., Passed Assistant Surgeon. Detached from the U. S. Naval Academy and ordered to the Constellation.

Diehl, Oliver, Passed Assistant Surgeon. Detached from the U. S. Naval Hospital, New York, and ordered to the U. S. Naval Hospital, Philadelphia.

Gravath, C. U., Surgeon. Detached from the U. S. Steamer Michigan.

Lumsden, G. P., Passed Assistant Surgeon. Ordered to the U. S. Steamer Michigan.

Ashbridge, Richard, Passed Assistant Surgeon. Detached from the U. S. Naval Academy and ordered to the Practice Ship Constellation.

Street, Thomas A., Passed Assistant Surgeon. Promoted to Surgeon.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending May 14, 1887:*

Fessenden, C. S. D., Surgeon. Detailed as chairman of board for physical examination of cadets, Revenue-Marine Service. May 13, 1887.

Stoner, G. W., Surgeon. To proceed to Delaware Breakwater as inspector, and to New York and Philadelphia, to inspect unserviceable property. May 12, 1887.

Irwin, Fairfax, Passed Assistant Surgeon. Detailed as recorder of board for physical examination of cadets, Revenue-Marine Service. May 13, 1887.

Fattic, J. B., Assistant Surgeon. Relieved from duty at Baltimore, M. D. Ordered to Marine Hospital, St. Louis, Mo. May 13, 1887.

Society Meetings for the Coming Week:

Monday, *May 23d:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

Tuesday, *May 24th:* New York State Medical Association, Fifth District Branch (annual—Brooklyn); New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private).

Wednesday, *May 25th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Auburn, N. Y., City Medical Association; Medical Societies of the Counties of Albany and Monroe (annual—Rochester), N. Y.; Berkshire, Mass., District Medical Society (Pittsfield); Philadelphia County Medical Society.

Thursday, *May 26th:* American Laryngological Association (first day—New York); New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Cumberland, Me., County Medical Society (Portland); Pathological Society of Philadelphia.

Friday, *May 27th:* American Laryngological Association (second day); Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *May 28th:* American Laryngological Association (third day); New York Medical and Surgical Society (private).

OBITUARY NOTES.

Wilson Fox, M. D., of London, a remarkably astute physician, died on the 3d inst., as we learn from the "Lancet," after a few days' illness with an acute cardiac attack occurring probably as the result of a chronic rheumatic affection of the pericardium and the endocardium, with implication of both the aortic and the mitral valves. Our contemporary speaks of Dr. Fox as having "combined in a degree rare in any calling moral elevation and moral courage, spiritual ardor and self-devotion."

Professor Gosselin, of Paris, as we learn from our Paris exchanges, died on the 30th of April, in the seventy-second year of his age. As a practical surgeon and as a contributor to surgical literature, M. Gosselin occupied a high station in the Paris faculty, of which he had been a member since 1858.

Professor Vulpian, of Paris.—The death of Professor Vulpian is announced in press dispatches as having taken place on Wednesday of this week, in the sixty-first year of his age.

Letters to the Editor.

ATROPINE AND APOMORPHINE IN OPIUM POISONING.

La Crosse, Wis., *May 8, 1887.*

To the Editor of the New York Medical Journal:

Sir: A few months ago I was called to see a young woman who had taken poison. I could not learn what poison had been taken, so I had to go prepared for any emergency. I found the patient, a woman twenty-four or twenty-five years old, eight months pregnant. She had swallowed, apparently, three or four drachms of laudanum, with suicidal intent, and had resisted all efforts to save her. When I arrived she was in a semi-comatose condition. I saw at once that it would be useless to try the stomach-pump, but, having my case of hypodermic pellets with me, I easily persuaded her to swallow a little water in which I had dissolved an eightieth of a grain of atropine. Waiting a few minutes until the coma was more decided, I readily inserted a hypodermic containing a sixth of a grain of apomorphine into her arm. In less than four minutes the stomach was emptied with a gulp. She rapidly recovered her consciousness, opening her eyes and looking at me very reproachfully. I now had no trouble in persuading her to swallow a cup of strong coffee which I had ordered to be made as soon as

I came. The coffee was instantly rejected by the stomach. Another cup, taken fifteen minutes afterward, was retained about five minutes, and then thrown up. The third cup, containing one one-hundred-and-fiftieth of a grain of atropine, was retained. In three hours from the time I arrived she was sitting up, wide awake and out of danger. Her attempt at suicide had one good effect: it brought about kinder treatment from her family. In four or five weeks I delivered her of a strong, healthy male child, and she has had no suicidal tendency since.

Alexander F. Samuels, M. D.

PERMANGANATE OF POTASSIUM IN CHRONIC MALARIAL AFFECTIONS.

Virgin Islands, British West Indies, *March 2, 1887.*

To the Editor of the New York Medical Journal:

Sir: Last year I was appointed acting medical officer in the Island of Dominica, B. W. I., and in my official report for one month I forwarded the names and residences of a hundred and forty-two persons whom I had attended, among them seventy-five with malarial fevers. I do not propose to bore your readers with details of type, etc. All the cases were finely orthodox in behavior, which leads me to remark that, in all my tropical and other experience, I have never seen the hybrid "typho-malarial fever." It is time—quite so—that that caudal appendage should be dropped. I doubt its existence as faithfully as some doubt that we ever dropped ours. Most of the inhabitants of the district where I practiced lived in thatched huts, badly ventilated, with the natural soil for the floor. As the country abounds in rivers, and rain is constant, they were very damp. The food eaten consists of carbohydrates and boiled fish—a diet which, with their surroundings, certainly renders them unfit to resist disease. I was consulted by women with fever and amenorrhœa or dysmenorrhœa due to exposure, and malarial anæmia or toxæmia. It was to them that I first administered permanganate of potassium, and it cured them not only of their uterine symptoms, but of their malarial fever also. I afterward gave it to men and children, and with very interesting and successful results. The usual dose was from half a grain to a grain, in water, three times a day. In private practice I give five grains of pepsin after the dose, to prevent the nausea, which is the only drawback to the use of the drug. Since my appointment as medical officer of the Virgin Islands I have been using the same treatment here with good results. I have not heard or read of its having been used before for malarial fevers. As to the *modus operandi* of the permanganate I will say but little, and that what I know—namely, that, as a germicide, it is one of the best, and one that is harmless even in strong solutions.

I. Vroz, M. D.

THE TOPOGRAPHICAL ANATOMY OF THE BLADDER AND URETHRA.

To the Editor of the New York Medical Journal:

Sir: Do you not think that physicians would carry their privilege of disagreeing rather far were they to contradict each other as to the number and shape of a perfectly formed man's fingers and toes? I have never asked any physician exactly these questions, but I have requested a number of physicians to sketch and describe the bladder and urethra of such a man; and I am amazed to find that the sketches and descriptions vary materially. Can you, may I ask, refer me to any full-sized, accurate section of a man's bladder and urethra? Or, if it is true that the urethras of different men in normal condition vary, except in size, will you kindly refer me to as many sections as there are varieties? Do you believe that any such section is or could be published whose accuracy would be generally admitted by physicians? A section which commands such an indorsement is the one I seek. Thus far I have not been able to find any full-sized complete section at all.

A Layman.

⁂ Our correspondent's first question calls for a division. We think that physicians would be carrying their privilege of disagreeing "rather far" if they were to contradict each other as to the number of the fingers and toes, but not if they were to give different descriptions of their shape, for the latter shows infinite variety, as any artist accustomed to paint from life can testify. The same is true of the bladder and urethra. It would be difficult to find two subjects in which they were quite alike. The shape and relations of the bladder vary with its degree of distension, with the emptiness or fullness of the intestines, with the tonicity or relaxation of the abdominal and perineal muscles, etc. Allowing for these variations (which obtain to a lesser extent in the case of the urethra), and taking into account the fact that pictorial representations of these parts are taken from corpses, in which topographical anatomy is almost always distorted, we think that the figures given in the text-books are sufficiently accurate for all practical purposes, and as much in agreement as could be expected. The views given in Gray's and in Quain's works on anatomy, for example—those being the text-books most in use in this country—are substantially the same, only in one of them the median line of the body is at right angles to the printed lines, and in the other it is not. It is not to be wondered at that our correspondent's medical friends have not furnished him with satisfactory drawings; most medical men are not good draughtsmen, however good their knowledge of anatomy may be. For purposes of comparison, we would suggest to our correspondent to ask a number of botanists, for example, to draw from memory a common plant for him. We think he will find some discrepancies in the drawings, although the object is infinitely simpler than anything in the topography of the abdominal and pelvic organs.

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Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of April 21, 1887.

The President, Dr. A. Jacobi, in the Chair.

The Practical Value of our Present Methods of treating the Upper Air-passages.—A discussion of this subject, referred from the Section in Laryngology, was opened with a paper by Dr. F. H. Bosworth. The early days of laryngology, he said, had been days of instrument invention, and so rapidly had appliances and ingenious devices for treating disease accumulated that the impression had grown that disease was treated by machinery. When we knew little about the treatment of diseases of the upper air-passages our machinery was very extensive; but as our knowledge increased the machinery disappeared, and now that we finally obtained striking success, all the machinery necessary might be carried in one's overcoat pockets. The speaker then briefly mentioned the special methods of topical applications in the treatment of diseases of the larynx, of the lower pharynx, of the vault of the pharynx, and of the nasal passages. As no one would pretend to cure tumors, syphilis, tuberculosis, or paralysis affecting these parts by such applications, he passed them by. No case of so-called chronic laryngitis had ever been cured by topical applications, whether made by brush, sponge, or spray. Chronic laryngitis was merely symptomatic of, and secondary to, disease of the nasal cavities, and would be relieved by treatment of the latter condition. Regarding chronic pharyngitis, he had tried to make plain the fact that the lower pharynx was in no sense a part of the air-tract; it was rarely involved in inflammatory processes of the air-passages, and astringents, however applied, did not cure. He also maintained that there was no such disease as naso-pharyngeal catarrh in the sense of a catarrhal inflammation of the vault of the pharynx. No local application by brush, sponge, or probang to the vault of the pharynx ever cured, or even mitigated, the severity of this so-called naso-pharyngeal catarrh. The conditions in the vault of the pharynx, consisting in a structural change, clearly indicated surgical measures. Regarding nasal catarrh, so called, it was not a supersecretion, to be cured by the local application of astringents. The whole list of astringents found in the Pharmacopœia had been tried in vain. In a recent paper he had taken the ground that nasal catarrh consisted in a morbid condition of the mucous membrane which interfered with the great respiratory function of the nasal passages, namely, exosmosis of serum. Douches and sprays would not cure this condition. They had their uses; but, if we depended alone upon local applications, no matter what special astringents, or stimulants, or alteratives were used, no matter how elaborate our air-pumps and thickly plated our air-receivers, no matter how expensive and complicated our machinery, we should fail absolutely in giving that amount of relief which our patients were entitled to receive—namely, complete and radical cure. The nasal douche was useful for cleansing and palliative purposes, as was also the spray. As good a spray as any was a single-bulb hand atomizer. The treatment of catarrhal affections of the upper air-tract consisted in the treatment of the nasal passages, and involved the restoration of these passages to a normal condition by removal of obstructing bone, cartilage, hypertrophied membrane, or other morbid formations. The effect of the cautery was not the destruction of tissue when used in hypertrophic rhinitis, for this condition consisted only of chronic dilatation or hyperæmia of the blood-vessels with increased nutrition. A caustic applied on the mucous membrane reduced the amount of blood-supply, arrested hyperæmia, and thus restored healthy action. It acted in this way: a solution of cocaine was first applied to render the membrane anæmic; a mild caustic was then employed, which coagulated and destroyed only the superficial tissue, creating a closely adherent slough which acted like a film of collodion. This being the case, he thought chromic acid was superior to the galvano-cautery; it was more convenient, less cumbersome, and less costly, and could be applied delicately and at the place desired. The value of laryngoscopes had been overestimated. A head mirror, two inches and a half in diameter, with a good light, would be found to render as much aid as a more expensive apparatus.

Dr. A. H. **Smith** read a brief paper, in which certain statistics were referred to, showing that in 1,350 cases of disease of the upper air-passages an operation was considered necessary in only 27 per cent. Thus it would be seen that in over 70 per cent. of the cases other than surgical methods had been called for. He referred to the benefit to be derived from anodynes and disinfectants, particularly weak solutions of carbolic acid. But there were certain conditions inherent in some cases which limited the action of curative measures, and the failure to cure was not chargeable to faulty methods or want of skill. These limitations were not illustrated alone in diseases of the upper air-passages; there were also cases of chronic uterine catarrh, etc., which resisted every effort. A tissue change had taken place, and restoration to the normal condition involved a restoration of normal vital function, and this could not be effected by the measures thus far employed. He had long since ceased to expect, as he had ceased to promise, complete and permanent cures.

Dr. **William H. Thomson** read a paper in which he stated his opinion that the treatment of chronic diseases of the upper air-passages should be directed chiefly by two principles: 1. A recognition of cutaneous nerve associations in the causation and perpetuation of inflammation. 2. Local disinfection. Organs which were in symmetrical pairs were so closely associated in vaso-motor relations that the same effect, so far as their circulation was concerned, was produced in both by an impression made on only one member of the pair. There was a close relation between the sensory nerves of the skin and the vaso-motor apparatus of the viscera immediately beneath. There were also special relations between the vaso-motor functions of one part of the body and the nerves of sensation in a particular distant part of the body. Wet feet, for instance, might check the menstrual flow. This relation existed between the feet and the larynx, and between the nerves at the nape of the neck and the circulation in the nose. Unfortunately, we had few vaso-motor tonics. In colds it would be of benefit to apply cold water to the nape of the neck on rising, but keeping the hair dry; and to apply cold salt water to the throat. The neck and shoulders should be washed in cold water, dried, and then rubbed with sweet oil. Drafts of air were more harmful than a walk in the cold air. Exposure of a portion of the surface of the body, especially at night, should be avoided. As to special covering, a thin woolen undergarment should be worn, and over that a perforated buckskin shirt. Buckskin drawers, perforated, might also be worn. He knew of no special clothing so beneficial as this. Chest protectors, etc., which covered only a part of the surface, were worse than useless.

It was hard to resist the belief, from the evidence already given, that inflammation as such was always the result of infection. A practical deduction was, that, as the onset of disease could be prevented only by excluding germs, so all chronic mucous inflammations could be got rid of only by driving out such germs after they had obtained access to the tissues. Two methods were to be adopted: 1. To strengthen the vitality of the parts. 2. To apply disinfectants directly to them. The greatest advance, he thought, would be made in the discovery of disinfectants and how best to use them.

Dr. H. H. **Curtis** had deduced the following conclusions from the observation of a thousand cases of disease of the upper air-passages; in all cases of nasal stenosis from deflection of the septum, etc., there was subacute or chronic inflammation of the lining membrane of those passages, this inflammation extending also down to the pharynx and here giving rise to glandular hypertrophy. This affection of the posterior wall was due to mouth-breathing, and disappeared on opening the nasal cavities. Any treatment directed to this glandular hypertrophy without treatment of the nasal passages would be inefficient. Disease of the ethmoid cells was generally due to hypertrophy of the middle turbinated body and consequent retention of the ethmoidal secretions. The treatment consisted in the application of chromic acid in order to reduce the obstruction, and allow free access of air and outlet for the secretions. He employed this escharotic to the exclusion of others, and he would be unwilling to exchange it for all the sponges, sprays, etc. Its use was followed not only by clearing up of the nasal passages, but, in consequence of this, by disappearance of the granulations referred to, of laryngitis, pharyngitis, and huskiness of the voice. It should be used carefully, but he had seen no bad results from it. The sooner the profession ceased to apply strong astringent solutions and nitrate of silver to the upper air-passages, and gave proper attention to restoring the respiratory functions of the nasal passages, the sooner would laryngology be placed on a higher plane, and relief given to countless thousands suffering from so-called post-nasal catarrh.

Dr. W. C. Jarvis thought the spray was undoubtedly of great utility when properly employed. Pound pressure, he said, meant nothing; but the dimensions of the pneumatic tube and the pound pressure being given, we had everything. Cocaine would act more efficiently, and a less amount would be required, when used by the spray than by any other method. Another remedy to be used from the spray was rhigolene, and it was often to be preferred to cocaine, especially where the latter failed to produce anæsthesia. He could not do without the spray for cleansing purposes. The coarse spray possessed nearly all the advantages of the douche. Powders were best applied fine by the compressed-air spray. Iodoform was best tolerated. Chromic acid and nitric acid both had their uses. But chromic acid was a treacherous drug. Doubtless it was of benefit in some cases, but it should not be used for the relief of hypertrophy of the lining membrane. It was a specific in its action on papillomatous tissue. Regarding the comparative value of surgical and other methods, he thought the decision had been pretty well settled in favor of the former. Where weeks and months were required to cure by local applications, relief and cure came from a single sitting when the snare, saw, or cautery was used. The apparently increased discharge in nasal catarrh was due to accumulation by obstruction, not to supersecretion.

Meeting of May 5, 1887.

A Memorial of the late Dr. H. P. Farnham, once vice-president of the academy, was read by Dr. P. A. Morrow.

The Ultimate Results of the Mechanical Treatment of Hip-joint Disease.—Dr. Newton M. Shaffer read a paper on this subject, written jointly by himself and Dr. Robert W. Lovett, of Boston. [See page 561.]

Dr. Lovett said, after the reading of the paper, that he thought the most important fact observed by him in examining the fifty-one patients was the amount of adduction present in most of them. A good many of them had a certain amount of bone shortening and considerable flexion without serious inconvenience resulting, but when they began to have adduction the gait became ungainly, they complained of pain in the back, and the practical shortening was a good deal in excess of the real bone shortening.

Dr. Ridlon thought the authors had clearly shown that, at a dispensary, with the necessary apparatus and surgeons to visit patients from time to time at their homes, cases of hip-joint disease among the poor, who were compelled to seek the aid of the dispensary, could be carried to a successful issue. He did not believe that all cases were of tubercular origin; some were due to syphilis, others to traumatism. It would be an advantage, he thought, if general therapeutic measures could be adopted in addition to mechanical treatment. When the patient's condition became worse in spite of mechanical treatment, he would resort to surgery.

Dr. Ketch said that, while the vast majority of cases of hip-joint disease were recognized at the New York Orthopædic Hospital and Dispensary as of tubercular origin, this was not considered the exclusive cause, nor were general therapeutic measures neglected. He thought we had in the mechanical treatment of hip-joint disease the most satisfactory method of combating it, not only with regard to the ultimate result, but also with regard to the relief from suffering during the treatment.

Dr. L. A. Sayre thought that, whatever might be the predisposing cause of hip-joint disease, whether tuberculosis or syphilis, there was usually a traumatic exciting cause. In the vast majority of cases mechanical and hygienic treatment would effect a cure, but there were neglected cases, and a few which were not neglected, in which amyloid degeneration of the kidneys and liver was taking place, making excision of the necrosed bone necessary. His results with regard to motion in the hip joint had been much better than those related by the authors. But, as Dr. Ketch had said, the ultimate result of the mechanical method was not alone superior, but the relief from pain and the ability of the patient to go about, taking healthful exercise, during the treatment was of the utmost importance, contributing in large part to the cure.

Dr. V. P. Gibney would speak in commendation of the statistics given in the paper. They were of great practical importance. Two important facts had been brought out which were contrary to the views generally expressed by the orthopædic surgeon in reply to patients' inquiries. He believed surgeons usually told their patients that the amount of motion in the hip joint would increase after the cure, but these statistics showed that it diminished. Again, it was customary to say that the affected limb would develop in size with time, but these statistics showed that, however strong the limb might become, the atrophy never disappeared. The speaker had become a convert to the mechanical mode of treating hip-joint disease. To enable the patient to run about, and grow strong and healthy in general constitution, was certainly a great desideratum.

Dr. Judson appreciated especially the remarks on the vexatious adduction from which these patients suffered. The question of the cause of deformity was a very wide one, but we might assume, at any rate, that the patient would take the most convenient posture in standing and walking, which was to rest as short a time as possible on the lame member. The limb was thrown around, adducted, and shortened in order to make it clear the ground. This repetition of adduction was encouraged by the small plate on which the patient walked. He thought abduction might be encouraged to some extent by making the foot-piece large.

Dr. Taylor thought a patient wearing an apparatus for hip-joint disease rested the foot upon the ground as little as possible because of dislike to put his weight upon the perineal strap. He did not think the gait would be improved by adopting Dr. Judson's suggestion. He referred to an apparatus for overcoming adduction which he meant to describe more fully in the future.

Dr. L. H. Sayre thought operative interference should be resorted to only after the patients had had the best mechanical, hygienic, and therapeutic measures, and still grew worse. In certain cases of marked distortion he would perform tenotomy and retain the limb in place by apparatus.

Dr. Shaffer expressed the belief that in many instances a supposed syphilitic joint disease was in reality a tubercular disease influenced by a syphilitic heredity. He thought that syphilitic joint disease, *per se*, was very rare in childhood, and that the great majority of cases were tubercular. Further, it was his opinion that bichloride of mercury, persistently administered for a long time, was about as efficient in the tubercular as in the so-called syphilitic form of the disease, and this remedy had proved very efficient in his private practice. It acted more quickly in some cases than in others, and in some exceptional cases, where there was a syphilitic hereditary history, it was wise to use iodide of potassium with the mercury. He regretted that the opportunity for administering internal remedies was not afforded by the dispensary (they were used in the hospital), but the mechanical treatment was necessarily very expensive, and the dispensary could not afford to supply drugs as well as apparatus. He further stated that he believed that excision of the joint should be resorted to in exceptional cases only. And he was thoroughly convinced that, if efficient mechanical treatment, aided by proper internal medication and *fresh air*, could be afforded the patient, better ultimate results would be obtained and many more lives saved than if excision was practiced—even in the cases ordinarily deemed most fit for the operation. Finally, he wished again to call attention to the fact that the cases reported were dispensary cases only.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN MATERIA MEDICA AND THERAPEUTICS.

Meeting of March 25, 1887.

Dr. Andrew H. Smith, Chairman.
Dr. George Dalton Hays, Secretary.

The Management of Fæcal Retention.—Dr. George Dalton Hays read a paper on this subject. [See p. 566.]

Dr. Jacobi thought that enemata were the best means of treating the constipation of the new-born. They were also the best in young children, and their use should be persisted in in obstinate cases. Certain cases of constipation in infants were due to starchy food, others to a lack of sugar, and still others to a starvation diet. Each of these conditions should be met. Some cases were due to the use of certain drugs, such as bismuth. In all cases the cause should be sought for and, as the author of the paper had indicated, should be removed before recourse was had to drugs.

Dr. E. Darwin Hudson said that constipation was still the *bête noire* of the general practitioner. He cited cases in hysterical women where constipation had been the cause of a long train of symptoms. He believed that powerful cathartics were often indispensable. A case had come under his observation in which the patient had been induced to use some so-called "health suppositories." On examination, they had been found to contain atropine.

Dr. Page called attention to the fact that the diagnosis of large fæcal accumulations was very often difficult, and cited a case occurring in the Woman's Hospital, diagnosticated as one of tumor, in which eventually twenty-five pounds of fæcal matter were removed, with a disappearance of the symptoms.

Dr. Currier remarked that constipation was one of the greatest difficulties in the practice of the gynæcologist, and probably oftentimes the cause of septic inflammation after operations. His mode of treatment was to combine the use of enemata with that of mild cathartics.

Dr. Leo said that many cases of death in the aged were due to fæcal impaction that had not been recognized during life.

Dr. Peters recommended caustic potash instead of ox-gall for enemata, also a pill containing two grains each of extract of aloes and extract of jalap. The combination did not gripe.

Dr. Dana spoke of the close relationship between hypochondriasis and constipation. He had but little faith in the value of strychnine or belladonna in the treatment of constipation.

The Chairman said that he could not agree with Treve that constipation was of little moment; on the contrary, he believed that many evils followed in its wake.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of May 3, 1887.

The President, Dr. Charles L. Dana, in the Chair;
Dr. George W. Jacoby, Secretary.

Nomenclature in Psychiatry.—Dr. R. L. Parsons's paper on this subject, read at the previous meeting, was discussed by Dr. Kellogg, Dr. Birdsall, Dr. Sachs, the President, and the author of the paper.

A Sarcoma Developed partly within the Skull.—Dr. S. N. Leo read the history of a case of tumor of the head which, in the course of an operation for its removal, was found to extend within the skull, and gave the impression of involving the dura mater at the situation of the great longitudinal sinus and of dipping deep into the substance of the brain. On account of these facts, and because the patient was already in bad condition from loss of blood, only the external portion of the growth was removed. The patient lived more than a month after the operation. An autopsy was not allowed. Her condition had been made serious by heart disease.

Dr. L. Weber regretted that the title of the paper on the cards of announcement had been "Report of a Case of Cerebral Tumor successfully removed." He also regretted that there had not been a post-mortem examination.

Notes on the Cause and Treatment of Functional Insomnia.—Dr. B. Sachs read a paper on this subject. Under the term he included cases of insomnia pure and simple, occurring in persons of the neurasthenic habit. He preferred to say neurasthenic rather than hysterical, for in his experience actual insomnia was less frequent in truly hysterical patients than in those suffering from cerebral or spinal neurasthenia. A number of typical cases were cited. The author thought that in the majority of such cases there was good evidence of disturbances in the cerebral circulation. As it had been found in animals that an increased activity of the cerebral circulation was accompanied by a deficient circulation in the peripheral parts, so in many cases of chronic insomnia cold extremities, pallor of the skin, and a scanty uterine flow pointed to deficient peripheral circulation, and in many of these cases there was weakness of the heart, with a weak pulse. Special attention was called to the simultaneous occurrence of insomnia and headache, and to the fact that as a rule the headache was of the paralytic migraine type.

The treatment of migraine and that of insomnia were similar in many respects. The author wished particularly to insist on the point that continued hypnotic medication was worse than useless. The good results obtained by him had been due to close attention to matters of general regimen; to the treatment of anæmia; and to the strengthening of the force of the heart's action by cold douches, by the regulation of exercise, and by the methodical performance of definite forms of active physical exercise, such as riding, rowing, and mountain climbing. Hypnotics were of use only at the outset of treatment; among these the reader mentioned chloral and bromides, to be given at night, or bromides alone, amorphous hyoscyamine, urethane, and paraldehyde. Their use should be discontinued as soon as a slight improvement was noticeable, and from that time onward general treatment was to be pushed vigorously.

Dr. Fisher thought that a very common cause of insomnia was anæmia, and he had seen considerable success in its treatment with cod-liver oil, cream, and other articles intended to improve nutrition. In some of the cases ordinary hypnotics had been administered without any avail. The patients might have the appearance of being well nourished while they were really anæmic. The mineral tonics were indicated, as a rule.

Dr. George W. Jacoby thought the paper was an exceedingly important one, especially in that it called attention to the fact that many patients with insomnia could be cured without the use of any medicines whatever. He agreed with the author that it was necessary to discriminate as to the cause of the wakefulness. He thought that in the majority of cases the cause would be found to lie in the circulation—not always in anæmia, but frequently hyperæmia. The cause being done away with, the sleeplessness would be overcome, but that which would cure anæmia in one case would not cure it in another. Active and passive exercise, particularly active exercise, were of benefit. For patients who could not go out, the muscle-beater was very useful. While he had not much faith in static electricity in the treatment of insomnia, he cited one case in particular in which a physician, who had applied it to one of his patients for another purpose, himself became sleepy under its influence. Perhaps the production of ozone by the instrument was the cause of this sleepiness, for it was well known that when we went into an atmosphere of ozone we were likely to become sleepy.

Dr. V. P. Gibney had noticed that static electricity tended to produce sleep. It was one of the few things that it had been found good for at the hospital with which he had formerly been connected.

Dr. W. R. Birdsall thought, with the author, that we must adopt hygienic rather than purely medicinal measures for the cure of insomnia, but we were occasionally forced, as the author had said, to resort to some drug for temporary effect. For this purpose he had produced benefit without injurious effects—such as sometimes came from the use of the bromides, hydrate of chloral, etc.—with a drug first recommended to him by Dr. Seguin, namely, conium. This, given in large doses, fifteen or twenty drops, or more, of the fluid extract, had in his hands been beneficial. He had continued its use two or three months without deleterious results.

Dr. G. M. Hammond thought that fully eighty per cent. of all his patients were similar to those described in the paper—persons suffering from insomnia, mental anxiety, etc. In the large majority of the cases he thought insomnia was due to hyperæmia of more or less limited areas of the brain. When the patients did sleep they had unpleasant dreams. They were also frequently sufferers from dyspepsia, constipation, spots before the eyes, noises in the ears, sometimes hallucinations connected with various senses, and coldness of the extremities. It was rare for such patients to go away without being cured, but, if they subjected themselves again to the same causes, the condition returned. He used bromides, and stuck to them right through the disease. He gave only ten or fifteen grains three times a day, and also gave fluid extract of ergot. He applied static electricity and dry cups to the back of the neck, and regulated the sleeping hours.

Dr. Leszynsky had been rather surprised, in view of a recent discussion before the society, to hear the author speak of the use of hyoscyamine as a hypnotic. It was a mistake to rely upon large doses of bromides given at night. There was an objection to their use in the case of ladies, because of the bad odor which they gave the breath. He had not been able to discover any peculiarity in the circulation of the retina in these cases.

Dr. Weber said that since he had adopted the treatment recommended by Dr. W. A. Hammond, and just described by Dr. G. M. Hammond, he had obtained the best results in suitable cases for this mode of treatment. But in other cases the bromides might cause excitement instead of aiding sleep. When there was gastro-intestinal disorder he added to the treatment the use of calomel with benefit.

Dr. Leszynsky referred to a remark by Dr. Birdsall concerning the use of a sinapism, or other cutaneous irritant, and said that Dr. W. H. Thomson had called attention some years ago to the beneficial effects of Cayenne pepper and like irritants to the surface of the body.

The President had found the warm bath a very valuable measure in many cases; in mild cases of insomnia the cold douche down the back and massage had proved useful. Bence had discovered that ozone had hypnotic influence. Lupulin had been of benefit in the insomnia of old people; and lavender in some cases in which the stimulus of alcohol or warm food had failed.

Dr. Sachs objected to the use of the bromides, particularly in small doses, more than to anything else in the treatment of the class of cases under discussion, namely, those of insomnia in neurasthenic subjects. It was likely to do more harm than good. The testimony at the discussion referred to by Dr. Leszynsky had not been against amorphous hyoscyamine, but against the crystalline form.

An Apparatus for the Relief of Writer's Cramp was shown by the President. It was called the "kaligraph" by its inventor, the late Mr. Charles Thurber. It consisted of an iron framework to which was attached a series of levers so arranged that, by making large characters at one angle, the characters were reproduced in ordinary size at the opposite angle. It was, in fact, a kind of reversed pantagraph. Writer's cramp instruments were based on the principle of resting the groups of muscles most used and throwing the work upon other groups. The kaligraph fulfilled these indications better than any other instrument with which he was familiar. The objections to it were that it was cumbersome and expensive. The speaker showed cuts of all the various forms of instruments for writer's cramp (ten in all) which he had been able to collect. The kaligraph had been in practical use for thirty years, but it was very little known. It had enabled its inventor, who suffered extremely from the cramp, to write with comfort. He was informed that Mr. Charles Dickens had possessed and used one.

Dr. Jacoby thought this instrument was only palliative, while Nussbaum's was also curative, and could be carried about by the patient. It compelled the writer to use the abductors.

The President replied that an instrument calling into play another group of muscles of the hand would cause those to be affected after a time.

Dr. Birdsall thought writer's cramp was due to cerebral fatigue rather than to muscular fatigue, and that instruments for overcoming it could be of only limited benefit.

Book Notices.

The National Dispensatory: Containing the Natural History, Chemistry, Pharmacy, Actions, and Uses of Medicines, including those recognized in the Pharmacopœias of the United States, Great Britain, and Germany, with Numerous References to the French Codex. By Alfred Stillé, M. D., LL. D., Professor Emeritus of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, and John M. Maisch, Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Fourth Edition, revised and improved. With Three Hundred and Eleven Illustrations. Philadelphia: Henry C. Lea's Son & Co., 1886. Pp. xvi–1781.

We think it a matter for congratulation that the profession of medicine and that of pharmacy have shown such appreciation of this great work as to call for four editions within the comparatively brief period of eight years. The matters with which it deals are of so practical a nature that neither the physician nor the pharmaceutist can do without the latest text-books on them, especially those that are so accurate and comprehensive as this one. The book is in every way creditable both to the authors and to the publishers.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

F. Alcan, Paris.—C. Féré, "Sensation et mouvement." (2*fr.* 50.)

J. B. Baillière & fils, Paris.—E. Duval, "De l'intervention des médecines dans les applications hydrothérapiques."——O. Jennings, "Sur un nouveau mode de traitement de la morphinomanie." (1*fr.* 50.)

A. Coccoz, Paris.—Dubuc, "De l'utilité . . . de la cocaine dans l'opération de la lithotritie." (0*fr.* 75.)

A. Delahaye & E. Lecrosnier, Paris.—H. de Fresnay, "Études d'obstétrique pratique." (3*fr.*)

Fischer, Berlin.—A. Gottstein, "Die Verwerthung der Bacteriologie in d. klin. Diagnostik." (2*M.* 4.)——O. Liebreich u. A. Langaard, "Compendium der Arzneiverordnung. Medicinisches Recept-Taschenbuch." 2d ed. (5*M.*)

E. Grosser, Berlin.—S. Sticker, "Magensonde u. Magenpumpe." (1*M.*)

J. Springer, Berlin.—E. Dieterich, "Neues pharmaceutisches Manual." (7*M.*)

BOOKS AND PAMPHLETS RECEIVED.

Evacuant Medication (Cathartics and Emetics). By Henry M. Field, M. D., Professor of Therapeutics, Dartmouth Medical College, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. vi–13 to 288. [Price, $1.75.]

The Scientific Rationale of Electro-therapy. A Revised Paper on the Therapeutic Applications of Electricity. By C. H. Hughes, M. D., etc. St. Louis. [Reprinted from the "Alienist and Neurologist."]

The Recent Advances in Abdominal Surgery. By Henry O. Marcy, A. M., M. D. Boston. [Reprinted from the "Medical Register."]

Die allgemeine Pathologie oder die Lehre von den Ursachen und dem Wesen der Krankheitsprocesse. Von Dr. Edwin Klebs, Professor der allgemeinen Pathologie und der path. Anatomie an der Universität Zürich. Erster Theil. Die Krankheitsursachen. Allgemeine pathologische Aetiologie. Mit 66 theilweise farbigen Abbildungen im Texte und 8 Farbentafeln. Jena: Gustav Fischer, 1887. Pp. xiv–6 to 514.

Earth as a Topical Application in Surgery. Being a Full Exposition of its Uses in all the Cases requiring Topical Applications admitted in the Men's and Women's Surgical Wards of the Pennsylvania Hospital during a Period of Six Months in 1869. By Addinell Hewson, M. D. Second Edition. With Four Photo-relief Illustrations. Philadelphia: The Medical Register Co., 1887. Pp. xx–25 to 309.

Feeding Patients against the Appetite. By Ephraim Cutter, M. D., M. M. S., etc. [Reprinted from the "Medical Register."]

Mental Epilepsy. By L. W. Baker, M. D., Superintendent Family Home for Nervous Diseases, Baldwinsville, Mass. [Reprinted from the "Medico-Legal Journal."]

Report of the Committee on Disinfectants. Presented at the Fourteenth Annual Meeting of the American Public Health Association, held at Toronto, Canada, October 5–8, 1886. [Reprinted from vol. xii of the "Transactions of the American Public Health Association."]

Transactions of the Rhode Island Medical Society. Vol. iii. Part iv, 1886.

Thomsen's Disease (Myotonia Congenita). By Dr. Geo. W. Jacoby, Physician to the Class of Nervous Diseases of the German Dispensary of the City of New York. [Reprinted from the "Journal of Nervous and Mental Disease."]

A New Explanation of the Renal Troubles, Eclampsia, and other Pathological Phenomena of Pregnancy and Labor. By A. F. A. King, M. D., Professor of Obstetrics in the Medical Department of Columbian University, Washington, D. C. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

Dose and Price Labels of all the Drugs and Preparations of the United States Pharmacopœia of 1880, together with many Unofficinal Articles that are frequently called for as Medicines or used in the Arts. For the use of Pharmacists, Physicians, and Students. Second edition, rewritten and thoroughly revised and enlarged, with an Appendix containing a Description of many of the New Remedies lately introduced. By C. L. Lochman, Translator of the First and Second Editions of the German Pharmacopœia, etc. Philadelphia: Dunlap and Clarke, 1887. Pp. 201.

Report of One Hundred Joint Resections Treated at Professor Saxtorph's Department in Frederick's Hospital, Copenhagen. Statistics collected by S. Meyer. Translated from the Danish by Robert T. Morris, M. D., of New York. [Reprinted from the "New England Medical Monthly."]

The Veterinary Service of the United States Army. By R. W. Shufeldt, M. D., etc., Captain, Medical Department, U. S. Army. [Reprinted from the "Journal of Comparative Medicine and Surgery."]

Certain Causes of Sterility in the Female and their Treatment. By Egbert H. Grandin, M. D., of New York. [Reprinted from the "Nashville Medical News."]

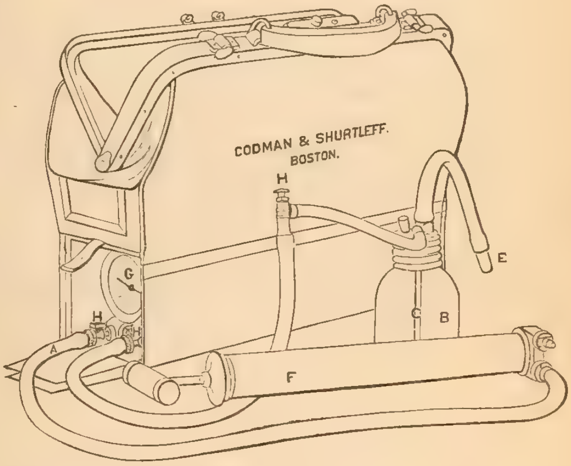
Oration delivered before the Alumni Association of the Medico-chirurgical College of Philadelphia on the Evening of Thursday, April 7, 1887. By Dudley S. Reynolds, A. M., M. D., Louisville, Ky. [Reprinted from the "Medical Register."]

A Review of Twenty-two Cottage Cases occurring in the Woman's Hospital in the Service of Dr. T. Gaillard Thomas. By A. H. Buckmaster, M. D., Gynæcologist to the Hospital for Mental and Nervous Diseases, etc. [Reprinted from the "American Journal of the Medical Sciences."]

New Inventions, etc.

A LARYNGOLOGICAL HAND-BAG.

At a recent meeting of the Massachusetts Medical Society, Suffolk District, Section for Clinical Medicine, Pathology, and Hygiene ("Boston Medical and Surgical Journal," May 5, 1887), Dr. T. A. DeBlois exhibited a new form of physician's hand-bag, which he had recently had made.



It consists of an ordinary leather bag, of medium size, but is about one third deeper than the ordinary bags. At one end of the bag is an opening near the bottom, which can be closed by a flap which buckles tightly. This opening displays the end of an air-condenser, with two cocks and a pressure-gauge. In the bag can be carried a small pump, by which the air can be forced into the condenser. In the space of two minutes Dr. DeBlois was able to obtain a pressure of thirty-five pounds to the inch without great exertion. The apparatus is then ready for use as a spray for the throat, the use of the Evans's inhaler or for any other purpose to which this treatment is applicable. The bag is sufficiently capacious to accommodate all the articles usually required. The weight is not materially increased by the addition of the condenser, and the whole apparatus is not too heavy to be easily taken in the hand when walking. It is manufactured by Messrs. Codman & Shurtleff.

Miscellany.

Cotting's Operation for Ingrowing Toe-nail.—In a letter to Dr. B. E. Cotting, of Boston ("Boston Med. and Surg. Jour.," May 5, 1887), Dr. R. F. Weir, of New York, says that he has done the operation as described in Dr. Cotting's last remarks "some seven times with uniform success." "In over a dozen other cases," he adds, "success varied with the amount sliced off."

The New York State Medical Association.—The Fifth District Branch will hold its third annual meeting on Tuesday, the 24th inst., at Remsen Hall, Brooklyn, beginning at 11 A. M. The announcement mentions the following papers: "The Therapeutic Effects of Ammonium Salicylate, with Cases," by Dr. J. D. Sullivan; "The History of an Interesting Case of Accident from a Fall," by Dr. M. T. Pultz; "Trephining in Gunshot Injuries of the Skull," by Dr. F. S. Dennis; and "The Abortive Treatment in Acute Diseases," by Dr. R. C. Van Wyck.

Medicine in the Eighteenth Century.—The following advertisement appeared in the "Independent Chronicle and the Universal Advertiser" for January 27 to January 30, 1800:

Tempestas resedit.

Dr. F. Cadete informs the Public that he intends to stay in Town, till next *April* during which time he will continue his Practise only as a Physician.

He expects to give general satisfaction to his future Patients, as he has given to a great number in this place, in the most obstinate Complaints: because the foundation of his Theory and Practise being established on the soundest and surest Principles, he thinks he cannot fail where there is any possibility to effect the cure.

Inquire at Mr. Ebenezer Watt's, *Wing's-Lane.*
Boston, *Dec. 19, 1799.*

The Health of Boston.—The following numbers of cases and deaths from infectious diseases were reported to the Board of Health during the week ending Saturday, May 14th: Diphtheria, 15 cases and 3 deaths; scarlet fever, 14 cases and 1 death; typhoid fever, 16 cases and 2 deaths; measles, 126 cases and 4 deaths. There were also 36 deaths from consumption, 15 from pneumonia, 1 from whooping-cough, 7 from heart disease, 17 from bronchitis, and 6 from marasmus. The total number of deaths was 172, against 163 in the corresponding week last year. Measles is very prevalent in Boston, but the reported death-rate from the disease is only about three per cent.

The New York Neurological Society.—At a meeting held on the 3d inst., officers for the ensuing year were elected as follows: President, Dr. C. L. Dana; vice-presidents, Dr. W. R. Birdsall and Dr. M. A. Starr; recording secretary, Dr. G. W. Jacoby; corresponding secretary, Dr. W. M. Leszynsky; treasurer, Dr. E. C. Harwood; councillors, Dr. E. D. Fisher, Dr. B. Sachs, Dr. L. Weber, Dr. E. C. Seguin, and Dr. G. M. Hammond.

The "Medical and Surgical Reporter," of Philadelphia, is now edited and published by Dr. N. A. Randolph and Dr. C. W. Dulles.

The Norfolk, Mass., District Medical Society.—At the annual meeting, held on Tuesday, the 10th inst., the election of officers for the ensuing year resulted as follows: President, Dr. W. P. Bolles; vice-president, Dr. G. D. Townshend; secretary and librarian, Dr. S. A. Potter; treasurer, Dr. E. G. Morse; commissioner of trials, Dr. J. Stedman; nominating councillor, Dr. O. F. Rogers. A paper on the "Third Stage of Labor" was read by Dr. E. G. Morse, and "A Case of Probable Intussusception with Recovery" was reported by Dr. E. F. Dunbar.

The New York Pathological Society will hereafter hold its meetings, beginning Wednesday evening, May 25th, at the New York Polyclinic, 214 and 216 East Thirty-fourth Street.

The American Laryngological Association will hold its ninth annual congress in the Hall of the New York Academy of Medicine, on Thursday, Friday, and Saturday, the 26th, 27th, and 28th inst. The programme includes the following papers: "Intubation of the Larynx," by Dr. E. Fletcher Ingals, of Chicago; "Description of a Modified Laryngectomy," by Dr. J. Solis-Cohen, of Philadelphia; "A New Method of Intubation of the Larynx," by Dr. Charles E. Sajous, of Philadelphia; "The Pathological Nasal Reflex: an Historical Study," by Dr. John N. Mackenzie, of Baltimore; "Hay-Fever: Analysis of Cases treated by the Author, together with Results of Treatment," by Dr. John O. Roe, of Rochester; "On the Treatment of Atrophic Rhinitis by Applications of the Galvanic Current," by Dr. D. Bryson Delavan, of New York; "Myalgia of the Pharynx and Larynx," by Dr. S. H. Chapman, of New Haven; "Sensory Affections of the Throat" (discussion to be opened by Dr. Frederick I. Knight, of Boston); "Further Researches upon the Function of the Recurrent Laryngeal Nerve," etc., by Dr. Frank Donaldson, Jr., of Baltimore; "The Anatomy and Physiology of the Recurrent Laryngeal Nerve," etc., by Dr. Franklin H. Hooper, of Boston; "On Certain Measures for the Relief of Congestive Headaches," and "A Case of Leucoplakia Buccalis, Recovery," by Dr. W. C. Glasgow, of St. Louis; "The Treatment of Laryngitis in Professionals who are unable to Rest," by Dr. J. Solis-Cohen, of Philadelphia; "Glandular and Connective-tissue Hypertrophies of the Lateral Walls of the Pharynx," by Dr. Clarence C. Rice, of New York; "The Galvano-cautery in the Treatment of Hypertrophied Tonsils," by Dr. Charles H. Knight, of New York; "Note on a Frequent Cause of Nasal Hæmorrhage," by Dr. Beverley Robinson, of New York; "The Constitutional Causes of Sore Throat," by Dr. S. W. Langmaid, of Boston; "Affections of the Crico-arytænoid Articulation," by Dr. George W. Major, of Montreal; "Cancer of the Larynx," by Dr. Hosmer A. Johnson, of Chicago; "A Case of Recurring Laryngitis Hæmorrhagica," by Dr. C. E. Bean, of St. Paul; "A Case of Stenosis of the Larynx treated by Divulsion and Systematic Dilatation," by Dr. Morris J. Asch, of New York; "On the Ætiology of Deflections of the Nasal Septum," by Dr. D. Bryson Delavan, of New York; "A Comparative Study of Some of the Methods of Treatment best adapted to the Relief of Occlusion of the Posterior Nares," by Dr. Alexander W. MacCoy, of Philadelphia; "Plaster-of-Paris Dressing for Fractures of the Nose," by Dr. J. W. Robertson, of Detroit; "Recurrent Naso-pharyngeal Tumor—Cure by Electrolysis—Exhibition of the Patient," by Dr. Rufus P. Lincoln, of New York; "Congenital Occlusion of the Nasal Passages, and its Successful Treatment by means of a Novel Surgical Procedure, with a Practical Demonstration of the Operation" (author's name not mentioned). On Thursday evening, by invitation of Dr. George M. Lefferts, the members will visit the Casino and take supper at Delmonico's. The annual dinner will be given at Delmonico's on Friday evening.

The Association of American Physicians will hold its second annual meeting at the Army Medical Museum building, Washington, on Thursday and Friday, June 2d and 3d. The programme includes the following: "Remarks by the President," Dr. S. Weir Mitchell, of Philadelphia; "Cirrhosis of the Liver in Children," by Dr. R. Palmer Howard, of Montreal; "Obstructive Safety-valve Action in the Heart and Direct Functional Murmurs," by Dr. John Guiteras, of Charleston; "Pneumatic Differentiation," by Dr. Hosmer A. Johnson, of Chicago; "Discussion on Antipyretic Treatment" (on reports by Dr. Horatio C. Wood, of Philadelphia, and Dr. G. Baumgarten, of St. Louis); "Cases of Sewer-gas Poisoning," by Dr. Henry Hun, of Albany; "A Case of Aneurysm of the Abdominal Aorta," by Dr. James T. Dana, of Portland, Me.; "Hæmorrhagic Infarction" (discussion on reports by Dr. W. H. Welch, of Baltimore, and Dr. William Osler, of Philadelphia); "Bergeon's Method of Treating Phthisis" ("Clinical Notes," by Dr. E. T. Bruen, of Philadelphia—"Clinical Notes," by Dr. Frederick C. Shattuck, of Boston—discussion by Dr. William Pepper, of Philadelphia, Dr. J. C. Wilson, and others); "Atrophy of Gastric Tubules, its Relation to Pernicious Anæmia," by Dr. F. P. Kinnicutt, of New York; "Observations on the Employment of Antipyrine and Thalline in the Treatment of Typhoid Fever," by Dr. Francis Minot, of Boston; "An Inquiry into the Frequency with which Lead may be found in the Urine, and on the Symptomatology of Chronic Lead Poisoning," by Dr. James J. Putnam, of Boston; "Forms of Typhoid Fever simulating Remittent Malarial Fever," by Dr. I. E. Atkinson, of Baltimore.

THE NEW YORK MEDICAL JOURNAL, MAY 28, 1887.

Original Communications.

THE INDICATION FOR QUININE IN PNEUMONIA.

By MARY PUTNAM JACOBI, M. D.

MR. MILL closes a review of the poems of Alfred de Musset with the remark, "How much life is required to produce a little poetry!" Similarly, I think, no one can sift clinical records without feeling inclined to exclaim, "What an enormous amount of data are required to justify a few positive conclusions!" On this account, fresh observations are always in order, and this is my excuse for presenting the partial conclusions which may be deduced from a hundred dispensary cases of pneumonia treated by quinine.

It would seem, at first, as if 100 cases would suffice for many and quite positive conclusions. But the uncertainty of dispensary practice is so great that, out of this 100, only 33 cases were followed to complete termination. In 20 others the record continues until after marked defervescence had occurred, making a fairly satisfactory total of 53. In 20 other cases the record stops during the continuation of fever or of marked physical signs, while in 28 cases the patients were only brought to the dispensary on a single occasion. The age of the patients varied from three weeks to eight years, much the larger number being about two years and a half old.

From the incompleteness of so many of the histories, it is useless to attempt positive conclusions in regard to the mortality statistics. Out of the whole number, seven are known to have died, so that the mortality can not be less than seven per cent., while it may be greater. But, on the other hand, the conditions were so generally unfavorable that it is impossible from these data to estimate the chances of death from the disease under quinine treatment, when all the details of management should be under the physician's control. Of course, all the cases brought to the dispensary were, by that fact, submitted to a degree of exposure which would be carefully avoided in either hospital or private practice. The general hygiene of the house was usually bad, the nursing unskillful and often inattentive, and a tendency to caseation and tuberculization existed very frequently, either constitutional or as a result of measles. One of the seven deaths occurred in a pneumonia following diphtheria; in another case it was consecutive to scarlet fever. Setting aside the mortality statistics as entirely inadequate for any useful purpose, the data may be utilized in the inquiry how far the fever or the physical signs of pneumonia are demonstrably influenced by quinine.

The physical signs especially investigated were the combination of extremely harsh or of bronchial breathing with dullness on percussion. In a few cases tympanitic percussion sound existed over areas where the auscultatory sounds would have led the observer to expect dullness. This paradoxical phenomenon is best explained by the German theory, which ascribes it to some such infiltration of the walls of the air-cells as may prevent them from vibrating under percussion. The column of air then vibrates alone—gives rise to homogeneous vibrations, as shown by experiments with the sensitive gas-flame—and such homogeneous vibrations have a tympanitic resonance. Similarly, percussion over the stomach normally occasions a tympanitic sound, because the walls are too flaccid to vibrate. But if the stomach be first overdistended, or, conversely, if healthy lungs be removed from the body, and percussed in their relatively collapsed condition, the note becomes duller in the first case, tympanitic in the second. Upon inflating the lungs, however, and repeating the percussion, the tympanitic note is found to have disappeared.

This experiment is mentioned by both Weil and Gerhardt in their treatises on percussion and auscultation. I have repeated the experiment, and obtained exactly the results stated. I have made somewhat of a digression to mention these facts, because I have found them omitted by many English and American authors.

Clinically, tympanitic percussion sound with consolidation often coincides with caseous degeneration of the lung, and the theory would therefore be sustained by the peculiar infiltration of the alveolar walls known to characterize Buhl's desquamative pneumonia.

To return to the clinical analysis. Seventeen of the cases examined had blowing respiration in some portion of the lung, usually in the upper scapular region, and among these 16 had fever. Forty-eight cases exhibited tubular breathing, and among these only 2 were without fever at the time treatment was begun.

To nearly all these cases quinine was administered in about the same way. Five grains were given at night, and the same amount in the morning, each in two doses at an hour's interval. In babies under eight months old, two grains and a half were given night and morning, similarly divided. In one or two cases requiring special mention, to children over two years old, larger doses were given. Out of the 16 cases of the first class, with harsh and blowing respiration, usually, of course, accompanied by râles, and other signs, physical and rational, that I need not here particularly describe, the blowing respiration disappeared—

After 2 days in 3 cases;
" 3 " " 2 "
" 4 " " 6 "
" 5 " " 1 case;
" 6 " " 1 "
" 7 " " 1 "
" 14 " " 1 "

In the apyretic case with blowing respiration this had disappeared after two days' medication.

In the second class, where tubular breathing indicated more intense congestion, or even consolidation of the lung, this was relieved, as shown by the disappearance of the sign—

After 2 days in 3 cases;
" 3 " " 3 "
" 3 " " 3 "
" 6 " " 1 case;
" 7 " " 5 cases;

After 11 days in 1 case;
" 14 " " 1 "
" 17 " " 1 "
" 18 " " 3 cases;
" 3 weeks " 1 case.

Two cases, without fever, lost their tubular breathing in one and ten weeks respectively.

Twenty-four cases were not observed to complete termination, the patients ceasing attendance. In 10 of these the fever had almost disappeared, and the patients were greatly improved when lost sight of; there was every reason to believe that they completely recovered. But in these, when last seen, the tubular breathing was persisting—

After 2 days in 3 cases;
" 6 " " 1 case;
" 7 " " 2 cases;
" 9 " " 1 case;
" 12 " " 1 "
" 18 " " 1 "
" 6 weeks " 1 "

Among the patients lost sight of while the fever was still high, and the morbid process progressing, the tubular breathing was persisting—

After 2 days in 6 cases;
" 3 " " 1 case;
" 4 " " 1 "
" 5 " " 1 "
" 7 " " 2 cases;
" 10 " " 1 case;
" 11 " " 1 "
" 12 " " 1 "

The tables of cases in which the patient was under observation until the physical signs had been effectively modified show that this modification occurred at varying intervals during the first week from beginning of treatment in 29 cases, and in from eleven to eighteen days in only 7 cases; finally after three weeks in 1 case. On this account, the persistence of tubular breathing during from two to seven days in 17 cases, which were not watched to their termination, proves nothing against the final recovery of the patients. Such recovery was almost certain, moreover, in 6 of these 17 cases, because, notwithstanding the persistence of tubular breathing, marked defervescence had occurred, and the patient was evidently entering upon convalescence. The possible occurrence of fresh attacks, or of extension of the morbid process to other parts of the lungs, would prove nothing against the favorable modification of the first set of symptoms by the treatment.

In 10 cases tubular breathing developed while the patient was receiving quinine. The treatment had been instituted when the occurrence of hurried and harsh respiration, together with fever, had pointed to a commencing broncho-pneumonia in scattered or in deep-lying foci. The appearance of the tubular breathing after two or three days of quinine medication indicates that in these cases the extension of the morbid process, or the agglomeration of the pneumonic foci, was not averted by the treatment. In 4 of the cases the lungs cleared up on the fourth, seventh, tenth, and fourteenth day, respectively. In 6 the patients were lost sight of on the second, fourth, fifth, and seventh day, and the tubular breathing persisted. To sum up such results as were obtainable from the data, we may say that quinine was given in 59 cases which could be watched to the beginning of convalescence or to death. Seven cases proved fatal, either during the height of the acute attack or by the supervention of acute tuberculization.

In 29 cases blowing or tubular breathing disappeared in from two to seven days, in 7 cases in from eleven to eighteen days, in 1 case after three weeks, thus making a total of 37 cases.

Finally, in 10 cases, though defervescence was established, the tubular breathing was persisting in from two days to six weeks; thus in about one fourth as many cases as those in which it disappeared. But these 10 cases represented convalescence, and may be added to the 37 cases in which the physical signs disappeared with the fever. In addition to the pyretic cases, quinine was given in 5 apyretic cases of chronic consolidation of the lung, and in one of congestion from mitral insufficiency.

As these cases bear particularly upon the view of quinine to be advocated in this paper, a summary of each will be given.

Case XXXVIII.—Two and a half years; broncho-pneumonia fourteen days after measles; first seen May 10th; harsh and laborious respiration at right apex; t. 100·5°. ℞ Vin. seneg. and am. carb.

May 12th.—No improvement. ℞ Potass. chlor., sod. bicarb., syr. ipecac., inf. prun. virg.

15th.—Abundant râles upper half right lung; respiration very harsh; expiration blowing at apex. ℞ Poultice. Quinine, gr. v, night and morning, in two doses at an hour's interval.

19th.—Vomited after quinine; râles diminished; expiration still blowing; t. 100°. ℞ Quin., gr. ij, every two hours.

22d.—Much improvement in general appearance; no fever, no râles, no vomiting; expiration, however, tubular at apex. Continue quinine, but in five grains, night and morning, as on 15th.

The treatment was continued with progressive improvement until on June 9th the tubular breathing was found to have disappeared. The quinine was then suspended. ℞ Syr. tolu.

June 16th.—Return of cough; tubular breathing found at left apex. Resumed quinine; continued until—

30th—When tubular breathing entirely gone. Quinine suspended.

Case LIV.—Child two years; first seen December 4th; pneumonia lasting since measles in September; dullness and increased vocal resonance at both apices; whiffs of tubular breathing; t. 99·5°; glands of groin enlarged. ℞ Ol. morrhuæ and calcii phosphatis.

January 29th.—Child reported as having entirely recovered. Then acute attack, ushered in by convulsion; t. 102·5°; R. 48; harsh respiration over both lungs without râles. ℞ Quin., gr. v, morning and night, in two doses each time.

31st.—T. 99°; R. 36. Continue quinine.

February 5th.—Respiration harsh and blowing at both apices. Continue quinine, also ol. morrhuæ and calcii phos.

19th.—Respiration nearly normal. ℞ Quin., gr. ijss., night and morning. Tinct. capsici externally.

March 12th.—Recovery complete.

Case VII.—Chronic pneumonia or peribronchitis; boy aged ten. On August 31st tubular breathing at right apex; no fever. ℞ Quinine, gr. v, night and morning.

September 23d.—Only occasional whiffs of tubular breathing in right supra-spinous space. Continue quinine.

October 12th.—Respiration only tubular on forced breathing.

Case XXXVI.—Aged two and a half years; cough for four months; slight tubular breathing at apex of right lung; t. 100°; on October 25th, quin., gr. v, night and morning in divided doses.

27th.—No tubular breathing; respiration harsh; t. 98·5°; apparent improvement.

Case LVI.—Child aged three months; cough for five weeks; bronchial breathing with dullness at right apex. On February 5th, quinine, gr. ij, night and morning.

February 12th.—Tubular breathing at right apex. Continue quinine, also ol. morrhuæ and calcis chlor.

19th.—Cough lessened. Continue.

23d.—Tubular breathing gone; replaced by harsh respirations, with subcrepitant râles.

Case VI.—Boy aged nine months; rheumatic mitral insufficiency without hypertrophy; much dyspnœa and cough. Presumed hyperæmia of bronchial mucosa. Digitalis for three days without obvious effect. Then quinine, gr. v, night and morning. Three days later child much improved; no cough; cheeks and lips red instead of bluish.

In 32 cases the fever was observed to entirely disappear, or to fall to 101°, under the quinine medication. This defervescence occurred—

On the 2d day in 8 cases;
“ “ 3d “ “ 3 “
“ “ 4th “ “ 3 “
“ “ 5th “ “ 5 “
“ “ 6th “ “ 2 “
“ “ 7th “ “ 4 “
“ “ 8th “ “ 2 “
“ “ 10th “ “ 1 case;
“ “ 11th “ “ 1 “
“ “ 12th “ “ 1 “
“ “ 13th “ “ 1 “
“ “ 19th “ “ 1 “
32 cases.

Thus in 25 cases defervescence occurred within seven days after beginning the quinine; in seven cases it was later. In 14 of the 32 cases the physical signs persisted though the temperature fell, 12 of these cases having tubular breathing.

In the remaining 18 cases the physical signs disappeared, or were greatly modified, coincidently with the fall of the temperature.

In 19 cases more or less fever, sometimes as much as 105°, was found on the last visit of the child, which occurred—

After 2 days in 7 cases;
“ 3 “ “ 1 case;
“ 4 “ “ 2 cases;
“ 5 “ “ 2 “
“ 7 “ “ 1 case;
“ 9 “ “ 1 “
“ 10 “ “ 2 cases;
“ 12 “ “ 3 cases.

In 4 of these 20 cases the physical signs had greatly improved, although the fever persisted. In the remaining 16 the physical signs also remained unchanged. Comparison of this table of 19 apparently unfavorable cases with the table of 32 cases in which defervescence was positively observed somewhat diminishes the unfavorable aspect of the incomplete cases. For a delay of defervescence as far as the seventh day, observed in 13 of the latter class, is not at all exceptional in cases of perfect ultimate recovery, for it occurred in 25 out of the 32 undoubtedly successful cases. The remaining 7 of these, moreover, delayed defervescence as long as, or longer than, the remaining 6 of the second division.

The temperatures existing at the time the quinine treatment was begun varied from 103° to 105°. Within this range the height of the temperature did not seem to modify its resistance to medication. On the other hand, an increased amount of quinine did not seem to exercise any greater influence over the fever than the ten grains a day habitually given.

Thus, in one case early in the series a child of six months received, in divided doses, ten grains of quinine in the evening and five in the morning. This was well tolerated, and, on reporting two days later, the child seemed much better, the respiration was easy, and the temperature 100°. Tubular breathing was heard bilaterally at the root of the lungs, and the percussion resonance was diminished over both lungs. The quinine was reduced to five grains night and morning. Two days later the temperature rose to 105°, the tubular breathing had disappeared, but the child was vomiting and the amount of urine diminished. Quinine was given by rectal injection, and again to the amount of fifteen grains in twenty-four hours. It was nearly all rejected, but on the two following days ten grains was administered in two doses by the mouth after two days; the temperature was still at 103°, the respiration 60, and the pulse 140. The mother then ceased attendance and medication for a week, rather wisely as it proved, for at the end of that time the baby was in full convalescence, the temperature 101°, the respiratory signs almost normal.

The foregoing case is, I think, of value, purely as a physiological experiment, in showing the resistance of pneumonic fever to doses of quinine which might be considered overwhelming for a child of six months of age. Another case, not included in the foregoing list, exhibits the same resistance of febrile temperature to larger doses of quinine under somewhat different circumstances.

A boy of four years entered the infirmary with a history of pneumonia following measles, and of four weeks' duration. Over the upper fourth of the right lung and nearly the whole of the left the respiration was extremely harsh in both times, with the expiration prolonged but not tubular. Moderate flatness on percussion existed over the upper fourth of both lungs, but over the middle third of the left was a markedly tympanitic resonance, prolonged into the axillary space. Notwithstanding this situation, which seemed favorable to the theory of tympanitic resonance from the stomach, I regarded the sign as probably indicative of commencing caseous infiltration. The child at first received five grains of quinine night and morning, and this was continued several days as an experiment, and to ascertain if the signs of pulmonary congestion would be modified by larger doses of quinine. Twenty grains of the drug were administered in twenty-four hours, in divided doses every six hours. During the second twenty-four hours of this medication, which was apparently well tolerated, the temperature rose to 102·5°, and continued to rise every evening after the larger doses of quinine were stopped.

The hectic thus developed was attributable to the tuberculization of the lung that became soon manifest; but it was clear that the fever was not even symptomatically checked by the quinine.

In a third case, a baby four months old, with signs of broncho-pneumonia at the apex of both lungs and a temperature of 102·5°, received a grain of quinine every two hours. Much of this was vomited. Three days later the temperature was still at 102°, and the physical signs unchanged. The use of quinine was interrupted for two days, then resumed as before, together with camphor and brandy. The temperature was then 103°. Two days later this temperature was unchanged, though the quinine had been retained. The tubular breathing, with râles, had extended to the middle of the right lung. Three days later the temperature was 106°. The left apex and the upper half of the right lung solidified.

At this point the child was lost sight of. Whether, as was only too probable, it died could not be ascertained; but it is certain that the large doses of quinine entirely failed to prevent either the rise of temperature or the extension of the morbid process in the lungs. Between the extreme and special cases just mentioned, and which in this series are the only ones recorded as those in which more than ten grains of quinine were given daily, and the mass of the cases in which precisely this amount was given, lies a considerable range of possibilities for varying methods of medication. Into these, of course, the reasoning of this paper can not enter. But, from the data given, the positive conclusion can be drawn that, in the pneumonia of children between six months and four years of age, a daily dose of ten grains of quinine does not act as an antipyretic *per se*, does not reduce temperature directly and apart from the morbid process, but only in so far as it modifies this.

It is true that in fourteen out of thirty-two cases defervescence occurred while signs of consolidation still persisted in the lungs. But it is well established that such signs do not contradict the arrest of the morbid process, but merely indicate the continued presence of the exudation which this has already caused. In croupous pneumonia the exudation signs may persist long into well-established convalescence. In catarrhal pneumonia, and especially in children, the exudation can not persist without risk of caseation; but this is a new process, and its dangers need not be immediately taken into account in the management of acute inflammation. Defervescence, therefore, except when brought on purely symptomatically—as by cold, or large doses of antipyretics—always indicates at least a temporary arrest of the morbid process, while the disappearance of many signs of congestion, which in children so often simulate those of exudation, indicates no convalescence so long as the temperature remains elevated. A forced defervescence in broncho-pneumonia, apart from an arrest of the morbid process, would be of little advantage to the patient, unless in the relatively few cases where a great excess of temperature threatens or causes convulsions. There is certainly no danger in children, in non-infectious pneumonia, of cardiac degeneration from either heat or other cause. The pneumonias after diphtheria or scarlatina may often owe their fatal termination to infectious myocarditis, with thrombosis; but against this danger antipyretics would be powerless. Apart from the possibility of an infecting agent in the blood, the fever in pneumonia seems most plausibly explained by paresis of the heat-regulating centers of the medulla, the consequence of an excess of excitations conveyed to the medulla from the lungs in the centripetal fibers of the vagus. According to the experiments of Rosenbach * in normal respiration, the distension of the lung in complete inspiration irritates the pulmonary fibers of the vagus; the irritation is conveyed along these fibers to the medulla, and inhibits the excitation of the inspiratory center, which, determined by the presence of carbonic acid in the blood, has been the cause of the inspiratory expansion of the thorax. The irritations thus generated in the lung convert the otherwise permanent excitation of the inspiratory center into a rhythmical excitation by means of periodical interruptions. When the inspiratory center is inhibited, the inspiratory movement is arrested, the thorax passes into the passive state of expiration, and remains there until the increasing venosity of the blood again excites the inspiratory center.

When the pulmonary tissue is inflamed, the fibers of the vagus suffer an abnormal irritation; the medullary center is therefore more frequently inhibited; the respiratory movements are shorter and far more frequent than in health. A sudden acceleration of respiration, with a rise of temperature, may often suffice to indicate inflammation of the lung tissue, or the transition from bronchitis to pneumonia, even in the entire absence of physical signs.

The centripetal nervous irritations which suffice to inhibit the respiratory center and the heat-regulating centers of the medulla can hardly fail to affect its vaso-motor center as well. It seems, indeed, highly probable that the vaso-motor fibers of the pulmonary blood-vessels, whose independent existence has not been demonstrated, run in the paths of the vagus. But the immediate effect of irritating the vaso-motor center is the contraction of blood-vessels. The dilatation of pulmonary blood-vessels in pneumonia can only be referred to the vaso-motor system under two circumstances. First, when the pulmonary congestion is generalized and primary, dependent on some overpowering influence primarily exercised on the vaso-motor center and apart from local pulmonary disease. Such congestions are seen in malarial and other infections. In the second case, the long-continued irritation of the vaso-motor center, when the periphery of the vagus has been severely irritated by inflammation of lung tissue, may result in secondary paresis of the medullary center, and hence in the terminal congestions of fatal cases of pneumonia.

It is worth noting that two out of the three immediate consequences of vagus irritation in pneumonia are conservative in their tendency. The increased frequency of respiration tends to compensate the restriction in area of respiratory tissue, and this has frequently been pointed out. Irritation of the vaso-motor center tends to antagonize the tendency to abnormal dilatation of blood-vessels caused by the unknown irritament of the inflammation.

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* "Studien über den Nervus Vagus," Berlin, 1877.

It has not yet been demonstrated that the fever which results from inhibition of the heat-regulating centers is also conservative, and only dangerous when in excess, but the other facts render this *a priori* probable. Diminution in the area of respiratory tissue threatens ultimately a diminution of the oxidations upon which the vital heat depends. The rise of bodily temperature caused by deficient elimination of heat—the probable cause of the fever in at least catarrhal pneumonia—seems to indicate a blind effort on the part of the organism to husband its heat resources, and thus to avert the collapse which is threatened by the disease.

The theoretical estimate of the action of quinine, or of any medication, in pneumonia must be based on the manner in which it can be shown to affect these vagus irritations, or else the pulmonary lesions which occasion them.

The most usual accounts of the lesions of broncho-pneumonia given by English and American writers emphasize the existence of bronchitis, and then describe the peribronchial alveoli as in a state of catarrhal inflammation, characterized by a proliferation and desquamation of epithelial cells. Delafield,* however, describes hepatized lobules—not granular, as in croupous pneumonia—yet standing out above the surrounding tissue, and filled with epithelium, leucocytes, and fibrin. This fibrinous exudation, according to Charcot and Grancher—the French writers who have most recently investigated the subject—is particularly characteristic of the peribronchial alveoli at the center of the lobule. Thus, as Cadet de Gassicourt remarks, we may no longer establish a distinction between croupous and catarrhal pneumonia, according to the presence or absence of fibrin in the exudation.† This central zone of hepatization, the peribronchial nodule, is surrounded by a zone of splenization. This is caused by a congestion of the alveolar walls, or even by a beginning of infiltration of these walls by embryonic cells, and by a mass of voluminous epithelial cells with a few leucocytes in the interior of the cells. This zone may be entirely absent, or it may greatly predominate. "It plays an important rôle in the clinic, for it belongs at once to hyperæmia and to hepatization; it is mobile like the one, and fixed like the other, and may sometimes extend with great rapidity."‡

The localization of the most severely injured tissue in broncho-pneumonia, in the immediate vicinity of the inflamed bronchus, would seem to confirm the old doctrine that the irritament, instead of being diffused, as in croupous pneumonia, is brought to the air-cells by the bronchi, or generated among the products of the inflammation of their mucosa. The condition of the outer zone of the lobule indicates a more diluted action of the same irritament, one of whose effects is the formation of leucocytes—*i. e.*, of pus; the other, the paralysis of the capillaries. The way is clearly open for the future demonstration of some form of bacteria which shall have been cultivated in the mucus of the inflamed bronchial tubes, and secreted the poison that could produce these characteristic effects. Such a bacterium, the pneumococcus of Friedländer, is known to have been accepted by many authorities as the efficient cause of croupous pneumonia, though Sternberg considers it identical with a micrococcus existing in the saliva. I am not aware that any discovery analogous to Friedländer's has been made for broncho-pneumonia; we must therefore continue to speak of an unknown irritament as the cause of the vascular and other lesions of the disease.

In our ignorance of the precise nature of the irritament, or of the manner in which it determines the pulmonary lesions of the disease, our therapeutic action must be indirect. It must aim at maintaining or at restoring the circulation on the periphery of the inflamed lobules, or of an aggregation of them. This aim is partly accomplished by the systematic application of moist heat, and the use of such remedies as seem to modify the bronchitis, and there is much reason to believe that, for direct action upon the congested pulmonary blood-vessels, quinine is the best drug at present known.

(*To be concluded.*)

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* "Studies in Path. Anat.," vol. i, p. 67.

† "Maladies de l'enfance," vol. i, p. 153, Paris, 1880.

‡ Cadet de Gassicourt, *l. c.*, p. 152.

ANTIPYRINE AND ACETANILIDE
(ANTIFEBRINE)
IN HEADACHE AND EPILEPSY.

By ALLAN McLANE HAMILTON, M. D.

In January last Ungar related his experience with antipyrine in the treatment of hemicrania, and in March Dr. C. B. Lyman, who had been induced to try the remedy after the publication of Ungar's success, administered it in several cases of neuralgia of the cervical, facial, and supra-orbital or mixed varieties, with more or less benefit. The first of these observers experimented with it as a successor to the salicylates, which have proved to be of great value in his hands in several varieties of headache, and he witnessed no evil results from doses of even twenty-three grains. Lyman used an initial dose of fifteen grains, repeated two or three times if necessary, and relieved the paroxysms, but did not prevent their recurrence. In March last I began a trial of this drug, and afterward its successor, antifebrine, in a variety of headaches, in insomnia, and in epilepsy. Some of these cases had been treated with more or less success with the salicylate of sodium, and the usual remedies, and the cases of epilepsy were under modified bromide or other treatment. The cases of headache selected were those of migraine of the angeio-spastic and angeio-paretic varieties, as well as ordinary facial or sub-occipital neuralgias; and the cases of epilepsy which were chosen were those of the symptomatic form complicated with objective and subjective indication of cerebral disease, as well the simpler forms which seemed to be dependent upon continued states of cerebral ischæmia, cerebral instability, etc.

In angeio-spastic migraine with evidences of cutaneous anæmia, dilated pupils, and coldness, the headache commencing in the morning, I found both antipyrine and antifebrine would quickly abort the paroxysms after the first dose.

Miss T. had taken salicylate of sodium in doses of gr. xxx, repeated once or twice, with variable relief. *Cannabis indica* and the chloride of ammonium failed to do good. Her headaches were connected with sexual irritation and excitement. She was very anæmic and hysterical. One powder of fifteen grains of antipyrine relieved the pain in less than an hour. The repetition of a daily dose in the morning completely suspended the headaches for a period of two weeks during which the patient was under observation. She was put upon a course of iron, which she took meanwhile.

Mrs. H., a large, flabby, anæmic woman, who tired easily and was melancholic, was relieved by the salicylate, but by neither antipyrine nor antifebrine. Her headaches were chiefly suboccipital.

Mrs. R. suffered from vague headaches, a sense of vertical pressure, and general anæmia, which were largely due to frequent uterine hæmorrhages. After the catamenia and during the first half of the month she had attacks of angeio-spastic migraine. Five grains of antifebrine produced tinnitus, but relieved the headache. This patient subsequently obtained slight relief from *Cannabis indica.*

Miss C. had for years suffered from congestive headaches, flushings, nausea, and frequent vomiting. Neither antipyrine nor antifebrine did her the least good.

Mrs. W., from a malarial part of Long Island, had supra-orbital neuralgia, was feeble, and tired easily. Her attacks had occurred almost daily for some time, and had partially yielded to quinine and arsenic. The continued use of antifebrine in five- and ten- grain doses gave her almost magical relief, and a succession of two or three doses repeated hourly would break up the most severe attacks.

Mrs. M., a young married woman, had suffered for many years from profound general anæmia, and presented the history of headache and losses of consciousness of an epileptoid character. These latter became regular and were chiefly matutinal. The bromides seemed to suppress them for a time, though when the dose was increased it aggravated the condition. Under the use of the albuminate of iron the patient's general condition improved, yet she had attacks of headache and epileptoid paroxysms nearly every week. Antifebrine, given in from five- to eight-grain doses thrice daily, has been followed by entire cessation of both headaches and fits.

J. C., fourteen years old, had been treated with a bromide mixture for some months. His attacks were reduced from one every third or fourth day to one in a month. After two attacks, which occurred from some hygienic *lache*, he was placed upon the use of antifebrine in four-grain doses thrice daily. His attacks were immediately increased and he had several close together. After two weeks' use the use of the drug was discontinued. In this case there were pupillary inequality and hemi-epilepsy, undoubtedly due to a cortical lesion.

George M., sixteen years, the subject of irregular epilepsy, with mental perversion, having periods of vacuity which lasted for days, and a succession of attacks which almost led up to a status epilepticus, under the bromide treatment had sometimes several attacks daily. He was given antifebrine in doses of five grains thrice daily, which were afterward increased to ten. His attacks were if anything aggravated. The medicine was prescribed April 19th. No attacks occurred until the next afternoon, when "he had the hardest" his father ever saw him in, lasting three quarters of an hour. He had seven fits the next day, one lasting an hour. He was slightly better the next day (April 22d), having but two, in one of which he became almost asphyxiated. I considered that he had had almost enough antifebrine, and on April 25th he was given the syrup of the bromide of nickel, since which time his attacks have entirely subsided, and he has not had one to this date (May 16, 1887).

Annie H., sixteen years old, had epilepsy with hysterical features, which had been relieved somewhat by bromides in combination with digitalis, and ovarian cauterization. Her attacks were greatly aggravated by antifebrine and antipyrine. The latter, in ten-grain doses, produced faintness, lividity of the lips, great muscular lassitude, and a decided increase in the number of attacks.

In four other cases of epilepsy in which either antipyrine or antifebrine was used there was some improvement in three of the cases, in each of which there was post-epileptic headache; and aggravation of the disease in the fourth, the patient's paroxysms being symptomatic of coarse cerebral disease. In one case of pure hystero-epilepsy the beneficial action of the remedies was absent.

I have also used both drugs in cases of habitual insomnia in doses varying from three to eight grains of the antifebrine, and ten to twenty of the antipyrine, without appreciable result, though in a case of maniacal excitement, due to nervous exhaustion and connected with moderate rise of temperature (102° F.), fifteen grains of antipyrine repeated twice produced refreshing sleep and a subsidence of excitement. There can be no doubt, however, that, in wakefulness due to general disease, especially with high temperature (and I have seen such), the value of both these drugs as hypnotics is very great.

I have at present other patients under treatment, and will subsequently report progress. It would seem as if both remedies were of value in headaches or cerebral states attended by anæmia, or in the excitement due to cell malnutrition and exhaustion; and, though antipyrine seems to be the more serviceable remedy, it possesses drawbacks which do not belong to antifebrine. It would appear as if the remedies were valueless or even harmful in cases of organic or symptomatic epilepsy, but worthy of a trial in the light cases attended by rather general cerebral vascular spasm and not much muscular movement. In several cases of *petit mal* the good effect of continued doses of antipyrine and antifebrine is manifest, for the losses of consciousness are far less frequent than when the patients were under other treatment. So far as tolerance goes, I have given to one patient forty-five grains of antipyrine in two hours without ill effects.

A CASE OF
FRACTURE AND DISLOCATION OF THE ASTRAGALUS.*

By LEWIS A. STIMSON, M. D.

A MAN about twenty-eight years of age, in a fit of drunken delirium, jumped from a third-story window, and was brought to Bellevue Hospital, April 27th. I saw him the next morning, about eighteen hours after the accident. There was a large bruise below the right patella, a row of abrasions along the left shin, and a small bruise below the left patella. The left foot and the lower half of the leg were swollen and discolored, the foot was at right angles to the leg, and was capable of some flexion and extension without deviation. A marked prominence was present at the inner side of the ankle, over which the skin was tightly drawn and was livid; it was at first supposed to be the internal malleolus, and the foot seemed to be carried bodily to the outer side, but on palpation the prominence was found to be behind and a little below the malleolus, and to have a curved border running backward and outward. Below this border could be felt a broad surface, that was curved backward and inward, and was flattened in a direction downward and inward; in front there was an abrupt depression. The scaphoid was in its normal location with regard to the malleolus, and no depression could be felt behind it in the situation of the head of the astragalus, although the swelling was such that the examination was not deemed very trustworthy. The peroneal tendons were displaced forward, so as to lie upon the outer surface of the external malleolus. The relations of the fifth metatarsal, cuboid, and calcaneum appeared to be normal. The dorsalis pedis artery was beating, but the posterior tibial could not be felt. The diagnosis of fracture of the neck of the astragalus, with dislocation backward and inward rotation of the body, was made, and an attempt was made to reduce under ether, by flexing the knee and making downward traction upon the foot, and pressure outward and forward upon the projection behind the internal malleolus. This failing, an incision three inches long was at once made backward and downward from a point in front of the malleolus, its center corresponding to the most prominent part of the projection. The upper articular surface and the outer edge of the astragalus presented in the wound, and the body of the bone was found lying below and behind the malleolus, its broken neck being directed forward and inward, its upper articular surface looking inward and downward, its posterior border close to the tendo Achillis, and its inferior surface just behind and below the posterior border of the end of the tibia. A transverse fracture had taken place at the junction of the body and neck, and the body had been completely dislocated backward and inward, with rotation inward of about 120° about its antero-posterior axis, and of about 45° inward about its vertical axis. The tendons of the tibialis posticus and the flexor longus digitorum were torn from their sheaths and crossed the inner surface of the malleolus above the astragalus. The posterior tibial artery was pressed backward, and was separated from the tibia by the interposed posterior portion of the body of the astragalus. Exploration of the joint showed that the head of the astragalus was in place, and there was no injury to the tibia or fibula. The lower tibio-fibular joint was not injured. The fracture ran from the anterior border of the trochlea downward into the groove occupied by the interosseous ligament. The body was easily removed, as all its ligaments and connections had been ruptured, except a part of those attached to its posterior border The wound and joint were thoroughly cleansed, the incision was loosely closed with two silk-worm gut sutures, a drainage-tube being inserted, the foot and lower part of the leg were enveloped in iodoform and bichloride gauze, and a plaster-of-Paris bandage was applied over all. On the following day the patient's alcoholic symptoms were much less marked, and his condition was good. On the third day a fenestra was cut and the tube was removed; the wound was dry, the swelling had diminished, and everything looked favorable, but three days later he developed pneumonia, and died on the ninth day after the accident.

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* Read before the New York Surgical Society, May 11, 1887.

To this record of the case I beg leave to add a brief mention of the few similar cases that have been reported. They are those of Denonvilliers, Lejeune, Pichorel, MacCormac, Le Gros Clark, and Cheever. In the first two the dislocation was directly backward, in the others backward and inward, as in the present case. Of Denonvilliers's case I have only the brief notes given by Malgaigne, viz., the body of the astragalus crossed the calcaneum at right angles, and its trochlea appeared through the skin below and behind the internal malleolus; he removed it, but the patient died. Of Lejeune's and Pichorel's cases the quotations by Delorme ("Dict. de méd. et de chir. prat.," vol. xxvii, p. 643) and Poinsot (Transl. of Hamilton's "Fractures and Dislocations") are even more brief; of the former it is only said that the dislocation was compound, of the latter that after two unsuccessful attempts at reduction, including division of the tendo Achillis, suppuration ensued and the limb was amputated. MacCormac's patient ("Trans. of the Path. Soc. of London," 1875, vol. xxvi, p. 174) was injured by the fall of a platform; the character of the injury was not recognized, and, after rest in bed for some weeks, he was able to walk well and to continue his occupation as a bricklayer. Two years later MacCormac removed the leg because of disease at the knee, and made a careful dissection of it. The foot was stiff, and was at a right angle with the leg without deviation. The astragalus had been broken at the neck, and the body had been so displaced and rotated that it lay behind and a little to the inner side of the tibia, its trochlear surface looking inward and backward, its posterior border being in contact with the tendo Achillis, and its broken surface looking downward and forward. The internal malleolus had been broken and had reunited, and the astragalus was connected with it by bony union. The tendons of the tibialis posticus and flexor longus digitorum were displaced inward and forward, lying on the inner surface of the malleolus; that of the flexor longus pollicis was separated from the tibia by the body of the astragalus, and lay upon the trochlear surface of the latter. No mention is made of flexion of the great toe, such as existed in Cheever's case, and in two others in which the unbroken astragalus was displaced backward and inward but one of the accompanying figures shows the terminal phalanx flexed. MacCormac reports also a case treated in 1863 by Le Gros Clark, which he himself had an opportunity to examine twelve years later; he found the body of the astragalus in a position identical with that of his own case, and supposed that there had also probably been fracture of the neck. The patient had full use of the limb, walking without lameness.

Cheever's patient ("Boston Med. and Surg. Jour.," vol. xciii, 1875, p. 237), a man thirty-two years old, was injured by a fall of about twelve feet. There was a very marked, partly rounded, partly sharp projection of bone between the inner malleolus and the heel, and a depression beneath the outer malleolus. The tendo Achillis was tense and was shortened over the abnormal prominence of bone, which lay between the inner ankle and the heel. The heel was drawn up and the mobility of the ankle joint was greatly diminished. The last joint of the great toe was strongly and immovably flexed at a right angle. After failing to reduce by traction under ether, he divided the tendo Achillis, then the tendons of the tibiales anticus and posticus, then that of the flexor communis digitorum, and finally the tendon of the flexor longus pollicis at the toe, but the dislocation still remained irreducible. The skin sloughed over the astragalus, but did not expose it, and the ulcer soon healed; in seven weeks the patient could freely move the foot, and in five months could walk with a cane. The divided tendons appeared to have united firmly.

The histories do not make clear the mode of production of the fracture and dislocation, but it seems probable that they occur while the foot is in dorsal flexion and by the agency of external violence, acting in the direction of the long axis of the leg along the sloping articular surface of the calcaneum, and forcing the tibia and calcaneum closer together, so that the posterior part of the astragalus is squeezed out from between them.

In my case, the bruises upon the front of the knees and legs indicate that the patient struck upon his feet with the ankles in dorsal flexion.

THE NASAL TREPHINE AND ITS ADVANTAGES.

WITH A CONSIDERATION OF BATTERIES AND ELECTRICAL APPARATUS USED IN NASAL SURGERY.

*WITH PRACTICAL DEMONSTRATIONS.**

By H. HOLBROOK CURTIS, M. D.

The subject of nasal surgery has of late received so much attention, both in current medical literature and in the papers read before this section, that it would be a presumption on my part to offer anything which I could strictly claim as original; but the application of a very ingenious device to nasal work forms the subject of a few remarks which I propose to make to-night. I wish first to speak of deviations of the septum, which some writers consider due either to unequal growth of the skull and bones of the face, or to unequal development of the cerebral hemispheres. Ziem considers that deviation is chiefly due to falls on the nose in first attempting to walk, blows with the fist, and accidental fractures; while Welcker considers the position of the infant in sleep to be a reasonable explanation of the deformity.

Ziem has, however, proved that every obstruction of the nostril exerts an important effect on cranial development. In a young animal, one of whose nostrils was completely closed for a long time, was observed a deviation of the inter-maxillary bone and of the sagittal suture to the closed side, lesser length of the nasal bone, of the frontal bone, and of the horizontal plate of the palate bone, less steep elevations of the alveolar processes, less distance between the bony auditory capsule and the alveolar process, also between the zygomatic arch and supra-orbital border, likewise diminished size and asymmetrical position of the vascular and nerve canals on the closed side of the nose. The distance of the orbits from the median line was unequal, which, as has been observed in man, leads to asthenopia, astigmatism, and strabismus.

Lastly, certain spinal curvatures seem also to be due to nasal obstruction. It therefore seems reasonable to suppose that a deviated septum may be the cause and not the result of unequal skull development.

The province of this paper does not include an inquiry into the cause of deviation of the septum; suffice it that it exists. Morell Mackenzie reports that in 2,152 skulls 1,657 were found with deviation of the septum, viz., 76·9 per cent.; while of 538 symmetrical septa only 22·6 per cent. were of European skulls, nearly one half of these being found in Italian crania. As these investigations only refer to deviation of the bony septa, they are of little value, as in a majority of cases which demand operative interference the correction of the deformity and consequent relief of stenosis lie in excision of the cartilaginous projection or deviation, a much more frequent cause of stenosis than the true bony deflection.

The question of asymmetry of the nasal septum has been thoroughly studied since the time of Quelmalz, 1750, by Morgagni, Haller, Hildebrant, and Velpeau. To Chassaignac, in 1851, is attributed the first suggestion as to operative interference. His suggestions were improved and further developed by Blandin, Adams, Jurasz, Theile, and others, who advocated their respective methods; but not until within the past ten years has any operation which can be considered as thoroughly practical and satisfactory been advanced which would in every case allow of a proper correction of the deformity. Dr. Goodwillie, of this city, in a paper read before the American Medical Association in July, 1880, entitled "The Surgical Treatment of Naso-pharyngeal Catarrh," first clearly defined his position as to the relationship existing between catarrh and stenosis due to deviation of the septum; though in a paper entitled "Extirpation of the Bones of the Nose and Mouth by the Aid of the Surgical Engine," published in July, 1879, in the "Medical Record," of this city, he had somewhat anticipated his conclusions.

To Dr. Goodwillie's ingenuity are we chiefly indebted for the application of the surgical engine to nasal work, and also for perfecting the so-called revolving knives which are well known to us under his name. The operation of transfixing and removing cartilaginous deviations was suggested by Dr. W. C. Jarvis, who used his snare for the purpose. To whom the introduction of the nasal saw belongs is at present in dispute, though to Dr. Bosworth generally redounds the credit of popularizing its use, and crediting it with its well-deserved efficiency.

While I do not wish to depreciate in any way the very valuable instruments at present employed, I beg to add another modification to existing methods.

In a very general use of the nasal saw during the past two years, I have met with so many cases in which its employment was not practicable that I have been experimenting as to a quicker and better means of removing nasal obstructions. I have adopted a combination of the saw and Goodwillie's revolving knives and drills, and I think have produced an instrument which, certainly in my hands, works in a most thoroughly satisfactory manner. The idea was suggested to me by Dr. W. W. Walker, a surgeon dentist of this city, who uses a somewhat similar instrument in implanting artificial teeth in the alveolar process. The particular advantages which I maintain for the nasal trephine are: 1. Greater celerity in work than is possible by any other method. 2. That the tissues beyond the deviation are not lacerated. 3. That a perfectly clean bore is made and the operator is not annoyed by hæmorrhage. 4. When the position of the posterior face of a deviated septum is invisible, it is possible to make an exploratory channel. 5. That a considerable portion of the nervous shock of a sawing operation is done away with. 6. That bone may be removed with much less motive power and with greater accuracy than by other existing methods.

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* Read before the Section in Laryngology of the New York Academy of Medicine, March 23, 1887.

To better illustrate my method, I submit the instrument, and also wish to call attention to a very convenient electro-motor and battery which I employ to supply motive power.

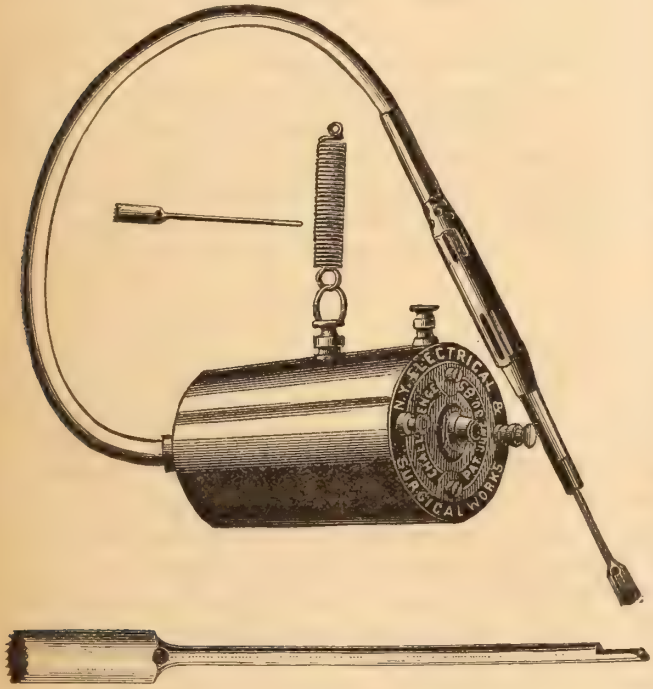

FIG. 1.

I have taken the electro-motor known as the "Challenge" and caused it to be incased in a nickel-plated cylindrical box to prevent entrance of dust and for the purpose of hiding the actual machinery. To the motor are attached the flexible cable and chuck, such as are employed on the surgical engine, in which the trephines are inserted. For greater convenience, I have been employing in my operating-room a constant galvanic battery known as the "Volta-pavia," made on the principle of a Leclanché cell, having a porous cup, zinc and carbon elements, and two fluids. Six cells of this battery give about twenty ampères of current with an electro-motive force of twelve volts. For general office-work the battery does not require filling oftener than every six weeks, and permits daily use of the motor, thermo-cauteries, and a small lamp. By employing a battery of this description, all plunging of plates is done away with, and also the annoyance of mixing new solutions. When one is constantly using the cautery points and motor this is a matter of great convenience. I show also the Gibson storage-cell, which is a superior attachment, where constant use is being made of the current. This cell must be fed from gravity batteries, which may be placed in the yard or cellar. The storage-battery, so called, will undoubtedly come into general use when the expense of the plant is diminished. I have also before me on the table Schweig's, Piffard's, Stammer's, and the C. & C. batteries—all excellent machines for office use. The most convenient arrangement for using the motor is to have the machine suspended from the ceiling by the insulated wires from the battery, immediately behind the operating chair, and contact to be made by a button under the foot of the operator. After use, the motor may be swung aside and hung on a hook in the wall.

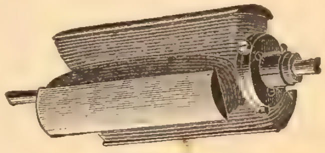

FIG. 2.

The armature, consisting of three segments, is so placed within the field that, on closing the circuit, there is a constant revolution of the axis established always in one direction. There is no dead center possible in this motor, which will start immediately and attain a speed of over fifteen hundred revolutions a minute. The motor stops working almost immediately on breaking the circuit.

Before speaking further of the motor and its arrangement, I will cite a case or two to explain the method of operating:

CASE I.—Mr. B., aged forty, suffered from so-called post-nasal catarrh for many years. There was found total occlusion of right nostril from a vertical acute deflection of the septal cartilage, involving a slight portion of the vomer in the posterior face. The deflection was so marked that the nose showed a prominence above the ala of the right nostril, causing disfigurement. On March 6th the patient was operated on, two perforations being made one above the other, removing the ridge of the deflection, and permitting some entrance of air to the right nostril. Considerable hæmorrhage ensued, which was controlled in a few minutes. On March 15th, the relief having been very great from the preliminary operation, the patient returned and allowed three perforations to be made, an operation lasting less than one minute, and giving a free nasal channel. The process of healing closed a slight fenestration and gave a most excellent result.

The special points of interest in this operation were as follows: The patient was extremely nervous and debilitated, and I feared too great a shock from a continuous operation with the saw, as I should have had to encounter a bony plate on the posterior face of the deflection, which often requires some time to excise, and disagreeable hæmorrhage is apt to occur. In taking out a cylindrical section at each sitting, a procedure lasting but about four seconds, the horror of an operation is mitigated. I have in two cases been obliged to discontinue a sawing operation by reason of the patient having fainted, not on account of actual pain, but from the continued noise of the saw and the associations connected with its employment. The operation with the trephine is absolutely painless when cocaine is applied to the mucous membrane, and none of that maceration of the tissues results which takes place when the revolving knives are used; nor is there any danger of sudden deflection from the point of original contact, a thing which frequently occurs with the knives when brought to bear on the bony ridge of a deviation.

Case II.—Miss L., of Brooklyn, aged twenty-two. Chronic post-nasal catarrh, with Eustachian catarrh, deafness, and very disagreeable tinnitus aurium.

Condition of nares as follows: Nearly complete stenosis on both sides due to sharp horizontal deflection of septum into right nasal cavity, occluding the inferior meatus, and true hypertrophy of left inferior turbinated body, the changed erectile tissue of which anteriorly was not contracted by cocaine nor by application of chromic acid (hence true hypertrophy). The patient was a confirmed mouth-breather. Assisted by Dr. Vincent Bowditch, of Boston, I attached a $\frac{3}{16}$-inch trephine to the electro-motor and took off the anterior prominence of the ridge of the septal deformity, the bone extending half an inch where the meatus was pervious. Quickly introducing a plug of absorbent cotton, as there was no great hæmorrhage but simply an oozing, I entered the left nostril and removed that portion of the inferior border of the turbinated body which occluded the meatus. From this there was no loss of blood, and the core which remained in the trephine had the macroscopic appearance of cartilage. The patient in ten days' time presented herself with both inferior meatus thoroughly open, and with a comparative freedom from her catarrhal symptoms. At present there is a slight abatement of the tinnitus. The entire time consumed in both procedures was less than thirty seconds.

In case it is desirable to remove the lower border of the turbinated bodies, the trephine is particularly adapted to the work. That true hypertrophy will often resist chromic acid, the monochloracetic and nitric acids, makes a surgical method a necessity, and in cases in which the uneven ridge of the hardened turbinate bodies makes it difficult to use the saw except in consecutive cuts the trephine will do the work by one application. In but three or four cases have I encountered a true hypertrophy of the turbinated bodies; in these the elastic-tissue elements were in great excess, at the expense of the vascular, all erectile power being lost. In my opinion, it would be very much better to employ the expression erectile tumors to designate those tumefactions that we commonly see on the anterior portions of the turbinated bones, which disappear upon application of cocaine, and are readily overcome by one or two applications of chromic acid; for in these the swelling seems to be due to a weakened condition of the walls of the blood-vessels, allowing permanent dilatation, and not to any proliferation or hypertrophy. In applying chromic acid for the restitution of the caliber of the meatus, we are simply bandaging the weakened and enlarged erectile structure by producing a cicatricial envelope to prevent undue distension of the glomerulus nasi, or erectile plexus. That the turbinated bodies have a normal erectile function was the almost unanimous opinion of this section expressed at the last meeting, but the word hypertrophy used to express an altered condition of this function without hyperplastic development is, in my opinion, a misnomer.

The employment of the galvano-cautery to reduce erectile tumors is advocated by some specialists. Dr. Schweig, whose battery I have here to-night, is accustomed to destroy the erectile protuberance by plunging a galvano-cautery point deep into the tumefied turbinated bodies, considering that the destruction of a portion of the vascular plexus will produce a more permanent result than the destruction or modification of the external mucous membrane. I have not been able to obtain the results by that method which I expected to theoretically, and have limited the employment of the galvano-cautery points to the destruction of tonsils and the eradication of glandular hypertrophies. The use of the cautery point on the granulations or glandular enlargements studding the post-pharyngeal wall in so-called glandular pharyngitis, or clergyman's sore-throat, I consider unnecessary, for, from the study of very many cases, I have found that disappearance of all these angry-looking red glandular islands studding the posterior wall of the pharynx takes place almost immediately on relieving the always attendant nasal stenosis.

I have simply outlined the subject for discussion by these notes that I see our chairman has seen fit to style a paper, but which I intended simply as a skeleton for future development. I trust that the members present will find the batteries, motors, and storage-cells of sufficient interest to repay them for attention to my preliminary remarks.

A DESCRIPTION OF THE METHOD OF CONDUCTING
A NORMAL CASE OF LABOR
IN THE FRAUENKLINIK OF MUNICH,
UNDER THE MANAGEMENT OF PROFESSOR WINCKEL.

By LEONARD S. RAU, M. D.,
LATE HOUSE SURGEON, NINETY-NINTH STREET RECEPTION HOSPITAL.

Pregnant women to a limited number (14) are admitted in the institution in any month of pregnancy, for the purpose of giving students opportunity to examine them in these different months.

Women in labor are admitted at any hour of the day or night, and on admission they have the choice of paying fifty cents a day and being taken to an upper part of the building, where they are examined and taken care of by a limited number, or else the women are treated free, and then they are placed in a room known as the clinical division, where they are liable to be brought before the medical class at the will of the professor. In fact, any birth which may be in progress during the clinical hour is brought before the class and lectured upon.

My history will treat of the non-paying patients, as I had them under my personal care for a time, and therefore can state facts as they appeared before me.

Immediately on admission the parturient is put to bed; the rectum and bladder are emptied. The bed upon which she is placed consists of a straw mattress covered with a rubber sheet; then several sheets folded together are placed under the nates. The room contains four beds, as also stationary wash-stands, on which are soap, nail-brushes, and bottles of bichloride-of-mercury solution (2 to 1,000). Furthermore, the room contains a table, where pelvimeters, circles, tape-measures, scales, thermometers, stethoscopes, reagents for examining urine, test-tubes, etc., are to be found.

For two succeeding days one of the volunteer assistants has "jour" (is constantly on duty), as is also a midwife. The latter notifies the volunteer on duty, after attending to the preliminaries above mentioned and also having made an examination herself, to see if the woman is really in labor. The volunteer is expected to come to the maternity ward at once. He must subject his hands to the most thorough disinfection, and then, without drying them, proceed to examine the patient and discover how far labor has advanced and what the presenting part is. After he has made a complete examination, he asks the midwife to call two students (who, while waiting for births, reside in the hospital). One student is known as the *Staats Examinant*, that is about to pass his examinations. The other is known as the *Praktikant*—that is, one still pursuing his studies. They, after going through a rigid disinfection, also examine the parturient. Should the labor be found to be abnormal and operative interference be required, then the volunteer assistant notifies one of the salaried assistants, who in turn notifies the *chef*, and the latter either performs the operation himself or else allows the volunteer on duty to do so.

I shall, however, as stated in the heading of the article, confine myself exclusively to the management of a strictly normal labor.

The *Staats Examinant* has to take notes of the entire case, as he has to hand a written history to the professor within twenty-four hours after the birth is completed, and he has to make daily visits to the puerpera and is daily examined (as to her condition) by the professor at the bedside. This lasts for seven days, that being the length of time the woman is retained after delivery.

The volunteer assistant is expected to fill out a printed journal, of which the following are the most important data:

Name. Age. Occupation. No. of previous labors. Date and hour of admission. No. of the birth. Parturient's personal appearance (whether blonde or brunette, etc.). Whether she has any sickness at present. Time of last menstruation. Day of conception. Time when she first felt fœtal movements. Next the parturient's family history is inquired into as regards parents' and relatives' health. Her own condition in childhood, particularly as regards rickets, scrofula, scarlet fever, etc. When she menstruated for the first time, whether menstruations have always been regular, their duration, etc. Whether former deliveries were normal or otherwise. Her state of health during this pregnancy. Next the different stages of labor are noted under the following heads:

Hour when the labor-pains first set in: Length of first stage (from time of first pains to fullest dilatation of os externum).

Hour when membranes ruptured.

Hour when os externum is fully dilated: Length of second stage (till the child is born).

Hour when placenta is expelled: Length of third stage (till placenta comes away).

The following notes are also taken: Full description of condition of breasts. Next, shape of abdomen, position and appearance of umbilicus, condition of abdominal walls, appearance of linea alba and of striæ. Position of the child's back, extremities, and head, as felt through the abdominal walls. Appearance of external genitalia, condition of vagina, position and amount of dilatation of os externum, spoken of in comparison with German silver pieces. Whether membranes have ruptured; if not, estimate of amount of amniotic fluid. Next, what is the presenting part which can be felt *per vaginam.*

The measurements of the abdomen and pelvis are next taken: Size of abdomen (circumference); height of umbilicus from top of symphysis; height of fundus uteri from same point; circumference of pelvis. Then with pelvimeter the distance between the anterior superior spines; distance between the crests of the ilium, conjugata externa (from groove below the last lumbar vertebra to the upper border of the symphysis), and, lastly, from posterior superior spine of one side to anterior superior spine of the opposite side. If the pelvis is contracted, then the conjugata diagonalis is also measured.

Next, notes in regard to auscultation, as follows: 1. Heart-sounds (of child), where heard with greatest intensity; their frequency. 2. Sounds from umbilical cord. 3. Whether fœtal movements can be heard, seen, or felt. 4. Uterine sounds. 5. Any other sounds which can be distinguished.

Next, the result of the examination of the urine is noted, also parturient's temperature *per rectum*, pulse, and respirations. Every one to two hours, as occasion demands, an examination of the parturient is made. The hour is noted, then the position of the presenting part, where the fontanelles are situated if felt, as also the membranes, rapidity of heart-sounds, position and size of os externum, and other facts which may have occurred during the interval.

When the child's head appears in the vulva, the parturient is requested to lie on the side where the posterior fontanelle was felt (L. O. A., left side, etc.), and the *Examinant*, after again thoroughly disinfecting his hands, rests the palm of one hand on the perinæum, always so as to keep the frenulum in view, and with the other hand passed between the woman's thighs he presses against the head during a pain, retarding it thus somewhat in its progress.

The time at which the greatest diameter of the head passes through the vulva is noted; next the time when the head is born, and then toward which thigh of the mother the child's face is turned, and which shoulder lies behind the symphysis. As soon as the head is born, he examines to see if the cord is wound around the child's neck, and then, with one hand still on the perinæum, he supports the child with the other hand during the rest of the delivery.

After delivery, the child is left to lie on the bed till all pulsation in the cord has ceased. Then the cord is tied about seven centimetres from the umbilicus, another ligature is placed one centimetre above this, and with a pair of scissors the cord is cut. Another ligature is then tied on the cord just in front of the vulva, in order to observe whether the placenta is making any progress. The child is then taken and bathed, then its length measured, and it is weighed, and, after being dressed, the measurements of the head are taken: First, bi-parietal; second, bi-temporal; third, fronto-occipital; fourth, mento-occipital; fifth, sub-occipito-bregmatic; and, lastly, with tape-measure, the circumference of the child's head.

Immediately after bathing the child the midwife places a bed-pan under the mother, to catch all the blood lost, and also the placenta. If the placenta is not expelled within *two hours*, it is extracted after Credé's method.

The placenta is then weighed, its length and breadth are measured, its consistence is noted, also its thickness, whether complete, whether any cysts, hæmorrhages, or other abnormalities can be found. Also note is made whether the placenta is expelled with the fœtal or the uterine side presenting. The amount of blood lost is then weighed. Next the length of the cord is measured, its thickness, where inserted. Then the membranes are examined as to being complete, their thickness, where the seat of rupture, or whether any abnormities can be seen. Next, notes are taken of any observable points in regard to the child (caput succedaneum, etc.); also it is noted whether the cord was twisted about any portion of the child; and, lastly, the names of those who examined the parturient are added to the journal, and then it is complete and laid away for reference and statistics. The woman, after all is over, receives a warm vaginal injection of a solution of bichloride of mercury (1 to 1,000), and each child has a solution of nitrate of silver (2 per cent.) injected into its eyes.

Certainly, in the manner above described, a systematic journal of every birth is obtained, and any points can be readily referred to. Furthermore, it gives the students a chance to witness normal cases of labor, to examine women in the different stages of labor, and thus make themselves practically familiar with what three fifths of our students have to learn exclusively from text-books, never having had charge of, and even often never having witnessed, a case of labor up to the time of graduation. Just such was the case with the writer, and he well remembers his fright and nervousness when one night, shortly after graduating, and when on duty as ambulance surgeon, he was called to one of our city prisons at 2 A. M. to deliver a woman in the second stage of labor, with the child's head so low down that he had no time to take her to the hospital, but had to treat the case as best he could without any assistance, or any one experienced in these matters to give him advice and direct him.

If this article can in any manner aid in showing the necessity of utilizing the material for students of medicine in our colleges, so that they, like those here, can witness a number of births, and before graduating have charge of, and write a journal of, three or four cases, then will its object be more than accomplished.

In conclusion, let me express my sincerest thanks to Professor F. Winckel, through whose kindness I have been able to note these facts, and with whose permission this article has been written.

Correspondence.

LETTER FROM PARIS.

Professor Budin's Obstetrical Service at La Charité.

Paris, *May 2, 1887.*

Professor Budin has quite a model obstetrical service at *La Charité*, where he carries out his rigid antiseptic principles. First of all, there is an entire separation of his wards from the rest of the hospital, and the other patients are not permitted to enter the obstetrical division, which is a complete system within itself. There are indeed three isolated portions to it. The first one is a large lying-in ward of twenty beds, where the patients and their infants pass from nine to fifteen days after the confinement. The bedsteads are of iron, without curtains or drapery of any kind. The windows are of ground glass, also without curtains, there being a sort of blind or shade outside. The furniture is plain; there are screens before the doors, and most of the rest of the fittings can be taken apart for cleaning purposes. The night-table, for instance, at each bed is of iron, and its four sides can be taken off and cleaned. The supplies to this part go direct from a kitchen, inclosed within it and separate from all the others; there are also special baths and water-closets.

Next to this division comes a large room called the "*salle d'accouchement*," where the women are delivered. Here there are, as a rule, three beds in separate inclosures, with every modern appliance at hand, including three of Professor Tarnier's *couveuses*, or hatching-boxes, for infants born before term. The beds here are covered with an impermeable paper, placed under the sheets, and it is taken away after each confinement and burned. Next to this room is the second system, which consists of a series of three isolating chambers, for patients who may present any trouble that may be a source of danger to the other lying-in women. At the present time there are only some cases of abscess of the breast. Here also there is a separate kitchen, together with water-closets, etc. There is likewise a separate set of attendants, so that there may be no communication with the other parts. The third system is a set of rooms above the others, consisting of rooms for the "*sages-femmes*," with others for the wet-nurses who are constantly in attendance to supply milk for the infants raised in the *couveuses*, and for those whose mothers have none, or not enough. The kitchen, dining-room, etc., are separate also.

Before describing the working of this service, permit me to take a few remarks from Dr. Budin's last work, called "*Obstétrique et gynécologie*," where he makes a report to the Minister of Public Instruction, on the study of midwifery in Europe. Almost everywhere in Europe, he says, medical students are compelled, before presenting themselves for examination, to personally conduct some labor cases. The smallest numbers are two in Hungary, four in Germany, from four to thirty in Great Britain, and ten in Holland (two of which must be difficult cases). In some cities, like Dresden, Berne, and others, students may live in the hospital. In many there is a room where they may wait day or night for a labor to come on. In Sweden they are compelled to stay six weeks at least in a maternity hospital. In London, Dr. Budin says, some years ago it was thought that poor women had better be confined at their own houses rather than in the finest maternity wards, and the service was organized so that medical students were sent to attend them. The student could call a house surgeon if he met with any difficulty. But at present in London, as elsewhere in Europe, most of the eminent obstetricians are against this system, which, they say, sends the student to a bedside where he is much disconcerted, and where he is very likely to learn nothing at all. The writer has a vivid memory of the time when he was favored with his first out-door case by a New York professor, so he will say nothing of the usual American system. With the present antiseptic and isolating system, it would certainly be best to build more maternities, as they are doing in London, and suppress the useless method alluded to, which, with all the excellent theoretical lessons at the schools, will never teach medical men practical midwifery. Clinical instruction is the only method.

But what can be said of the instruction of English and American midwives? It is rather curious that the most complete instruction in obstetrics for women is given at St. Petersburg and Moscow. In autocratic Russia the best maternities are to be found, where in two years women get a complete practical education in all the branches of obstetrics. Here in France the *sages-femmes*, or midwives, form a very large class of educated women, who are divided into a first and a second class. Members of either of these classes must be over eighteen years of age, and not over thirty-five, when they enter the schools. They are compelled to present certificates of morality and of their parents or husbands having consented to their entering the profession, also that they are vaccinated. They then pass an examination in the "three R's," as well as in geography, after which they enter the maternity or follow the *Clinique d'accouchements* for two years, where they are taught the theory and practice of midwifery, vaccination, nursing, bleeding, and bandaging, also the elements of botany, pharmacy, and natural history. After two years they pass two *public* examinations before a jury of three professors. The diploma charge is only five dollars to those of the second class, and nearly twenty to those of the first class. At the maternity they are lodged and boarded at a fixed rate of $200 a year, with a small charge for washing. Those who do not reside at the maternity are compelled to attend confinements for forty-five days and nights during each year of study. The effect of this is to give Paris a large corps of intelligent women who are of great aid to the doctors. They are compelled to call in a physician in case of application of the forceps or any instrumental aid, but they can perform version. They are certainly a great boon for the poor classes, who can not afford to pay a doctor. Their fees vary from $5 to $15 for a confinement. American women are always talking of finding an outlet for their surplus sisters, and certainly the honorable exercise of the profession of *sage-femme* is needed to supply your doctors with intelligent aid, and they should not be beneath the practice of such a profession, but should raise it above the present low level of midwives as seen in many of our cities. But do women ever care to occupy themselves with women's troubles? Certainly the lady physicians of Europe do not.

But, to return to Dr. Budin's service: It consists of an in-door and an out-door department, both under the great city governing body called *L'Assistance publique*. The in-door part I have already described. It is conducted by the professor himself, who makes a visit to each patient three times a week, and may be called upon in difficult cases at any moment. Next to him is the resident interne, M. Legry, who directs the service of two resident *sages-femmes*. Besides these, M. Budin has lately allowed the students of the medical school to undertake the care of confinements in his service (the only one in Paris where this is permitted). They follow him in his visit, and then in turn take charge of a case, being sent for to their houses just as one would call a doctor. They are assisted by one of the midwives, and they can call the interne or even the professor if he is needed. They then write out a complete report of the case, which they read to the doctor on his next visiting day. The parturient women are received at any moment, and are at once given a bath, followed by a vaginal injection of a 1-to-2,000 solution of corrosive sublimate, the disinfectant now in use in the service. These injections are repeated three times a day afterward, and a compress of borated cotton wet with the liquid is kept constantly on the vulva. At the daily consultation the interne receives all the women he can, taking care to select those in whose cases there may be any difficulty, such as malformation of the pelvis, etc. The others are each given a quart bottle of the antiseptic liquid in use, and are sent to the out-door service, which is conducted by certain *sages-femmes* who are attached to the service of the city hospitals, and who are permitted to receive at their houses a certain number of pregnant women. They are compelled to give each patient they accept a separate room and bed, and receive from the administration what is equal to $15 for the nine days' treatment. The doctor in charge of the district has to pay them each at least one visit. M. Pinard lately gave the results of these two systems at his hospital (the Lariboisière) in several thousand cases, and he had found that there was a progressive augmentation of septicæmia in the out-door service, and a diminution in the in-door, or hospital service. No one is allowed to touch a pregnant woman in the service without having first washed and disinfected his hands. Borated vaseline is used for the finger, or carbolized vaseline (1 to 100).

Besides a temperature-chart, a record is kept of the daily weight of the infants, the rise and fall being marked in the same way, and compared with the weight at birth. One of the points insisted upon by Dr. Budin is to allow the infant to remain two to three minutes, *until the cord has ceased to beat*, before tying it. It is believed that some eighty grammes of blood are saved to the baby in this way. There is then but one ligature applied, the placental end being left open, unless in case of twins. It has been said that this system of waiting caused jaundice in the infants, and experiments were made at the maternity to test this. In one ward this form of expectation was used, and in another the cord was cut at once, but the results prove that the waiting plan is the best. Those who follow the obstetrical services here are astonished to see the great perfection that abdominal palpation has been brought to. Abdominal palpation has been known since ancient times, but only lately has it reached such importance in obstetrics, which is now just as considerable as auscultation or the vaginal touch itself. M. Pinard, *professeur agrégé* at the school of medicine here, is at present bringing out a second edition of his work, called "*Traité du palper abdominal au point de vue obstétrical.*" It may be that this laying on of hands is not agreeable to some patients, but, when they know that a bad presentation can be made a good one by external manipulation, and both child and mother saved, they will accept it.

The Effects of Hot-air Baths on Assimilation.—In a paper by Dr. Garin, of St. Petersburg, on the effects of hot-air baths on healthy subjects, and on those suffering from kidney disease, it is stated, as the result of his researches, that the sudorific action of hot air produces an ncrease in the quantity of the nitrogenous elements of food assimilated. In healthy subjects it was found that after a course of hot-air baths lasting for five days the nitrogen assimilated was greater than before the baths, though less than during their continuance. This, however, did not appear to be always the case with patients suffering from nephritis. Again, the ratio of the urinary nitrogen to the nitrogen assimilated—that is to say, the nitrogenous metabolism—was decidedly increased both during and after the baths, the subsequent effect being more marked in the case of nephritic patients than in that of persons in good health, though not in either case so great as the effect observed while the baths were in progress.—*Lancet.*

THE

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PERNICIOUS ANÆMIA AND ATROPHY OF THE MUCOUS MEMBRANE OF THE STOMACH.

PERNICIOUS anæmia stands prominent among the opprobria of medical knowledge, on account of the obscurity of its pathology and the futility of its treatment. So long ago as the year 1860, the late Professor Flint drew attention to the connection between it and atrophy of the gastric glands. Although the majority of observers will probably agree with a recent writer who stated that the existence of gastric atrophy as a primary and independent disease had not been established, the observations of such accurate and faithful clinicians as Fenwick, Quincke, Nothnagel, and Osler deserve the most careful attention, and ought not to be overlooked. The case reported by the last-named observer and Dr. Henry last year, in the "American Journal of the Medical Sciences," goes far, we think, toward establishing the existence of primary atrophy of the gastric tubules. The diagnosis of pernicious anæmia can not be questioned. The history, the symptoms, the microscopical appearances of the blood, and the course of the disease were typical of that affection. The post-mortem examination was conducted with remarkable care and attention to minutiæ, and the only noteworthy abnormal condition found was atrophy of the mucous membrane of the stomach. The lesion was evident to the naked eye in the thin, cuticular appearance, and was abundantly confirmed by the microscopical examination, which showed that the peptic glands had been destroyed through the greater portion of the organ. Distributed over the surface there were numerous small elevations or islets representing mucous membrane in a less advanced state of degeneration. Toward the pylorus, where the atrophy was less extreme, the various stages of the process could be traced, consisting essentially of a small-celled infiltration between the tubules, such as occurs in slow interstitial inflammation. At one part of the lesser curvature there was a radiating cicatrix, no doubt the result of an ulcer from which the patient had suffered some nine years before. He had been addicted to the excessive use of alcohol, and the authors concluded that the lesion was due to that habit.

Fenwick lays stress upon the close resemblance between the clinical picture of atrophy of the mucous membrane of the stomach and that of idiopathic anæmia. While he is unwilling to say that in all instances the atrophy produces idiopathic anæmia, he reports four cases in which, he thinks, the relationship between the two was that of cause and effect. Unfortunately, the description of the morbid anatomy in some of the cases is not so full as might be desired, so that some doubt is left as to the nature of the lesion. In none of Fenwick's cases could the changes in the stomach be attributed to alcoholism. In Quincke's case there were gastric disturbances for three years prior to the fatal termination. The post-mortem examination revealed atrophy of the mucous membrane of the stomach, with destruction of the gastric glands to such an extent that only a few remained. The patient's habits are not stated definitely, but he is said to have been strong and healthy until the fatal illness set in.

Reasoning by analogy, we might suppose that sclerosis of the vessels of the mucous membrane would be capable of producing atrophy of the gastric tubules, but of this change in the small vessels of the stomach little is accurately known as yet. An attempt has been made to connect certain forms of gastritis with syphilitic endarteritis of the stomach, but the grounds for such a conclusion are not undeniably proof against criticism. Although it can not be reasonably doubted, we think, that some cases of pernicious anæmia have a primary atrophy of the gastric tubules for their starting-point, there are many obscure points regarding the pathology of the latter that demand further research. We are glad to notice, therefore, that Dr. Kinnicutt has chosen this subject as the theme on which he is to read a paper before the Association of American Physicians at its meeting in Washington next week.

MINOR PARAGRAPHS.

INTUBATION OF THE LARYNX.

DR. O'DWYER's operation of intubation of the larynx is to be the topic for discussion at the next meeting of the Academy of Medicine, and, as the president remarked when he made the announcement, "it is to be hoped that as complete statistics of the operation as possible will be obtained, particularly for the benefit of the profession in Europe, where the procedure has not been much resorted to." It may be added, judging from the few references to the operation that we have seen in our European exchanges, that it seems not only to have been little employed in Europe, but also to have been generally misunderstood. Many appear to have confounded it with M. Bouchut's procedure, from which it differs materially. It has been treated very reasonably in our own country—*i. e.*, with freedom from unfavorable prejudice against it on the one hand, and without that great bane of all novelties, undue enthusiasm, on the other. This fortunate course has undoubtedly been largely brought about by Dr. O'Dwyer's remarkably conscientious and modest statements on all occasions of his writing or speaking of the operation, together with his great care to perfect it before making it public.

THE NEW YORK ACADEMY OF MEDICINE.

AN appropriate and graceful action was taken by the Academy at its last meeting in adding the name of Mrs. Celine B. Hosack to its list of benefactors. It will be remembered that in our last issue we recorded the fact that the Academy had received from Mrs. Hosack's executor the handsome bequest of $70,000, being the amount that she had acquired from the estate of her husband, the late Dr. Alexander E. Hosack, in conformity to whose wishes the bequest was made.

The president's suggestion, made recently, that the Academy should take measures to secure and preserve the autograph writings of well-known members of the profession seems calculated to serve an excellent purpose, and we are glad to see that it has already been acted upon to some extent. At the same meeting it was announced that the Academy had received certain manuscripts prepared by the late Dr. Fountain, of Davenport, Iowa, who several years ago lost his life by poisoning with chlorate of potassium, as the result of his enthusiastic endeavors to prove the harmlessness of that drug in large doses. Our memory of the matter is to the effect that the fatal dose in Dr. Fountain's case was half an ounce.

CASE-REPORTING SCHEMES AS GUIDES TO DIAGNOSTIC INVESTIGATION.

The need of some system in the interrogation and physical examination of patients is so obvious that nobody questions it. Every practitioner adopts one or another, often one of his own devising, which he modifies from time to time as his growing experience leads him to think advisable. The utility of something more elaborate for the inexperienced is attested by the fact that such schemes are published every now and then. One of the most recent has been prepared by Dr. W. H. Allchin, of the Westminster Hospital, London. It is very comprehensive and somewhat voluminous. The author remarks, indeed, that it must seem extremely formal, but he proceeds to argue quite convincingly against the objection that a detailed and artificially precise scheme is a disadvantage on account of its failing to take account of the numerous exceptions which the student requires help in dealing with. He admits that the objection would be valid if the student were to become a slave to the scheme, instead of recognizing it as but a means of obtaining the information he desires. Without some guide, he justly remarks, every case becomes an exception, so that the student may lose his way in a labyrinth of isolated cases, and lapse into a vague and loose habit of thought and expression. Although there may be those whose previous training or natural disposition unfits them to do good work in accordance with a formal scheme prepared for them, and who may yet succeed in a path of their own choosing, their cases are exceptional, and it is better to furnish the majority with a plan as complete and precise as possible, each person who uses it being at liberty to modify it subsequently as his further experience may suggest.

NON-MEDICAL SANITARY OFFICIALS.

We have often remarked upon the anomalous legal requirement which makes it necessary that the president of the Board of Health of the city of New York shall not be a medical practitioner, and upon the fact that in many other similar bodies non-medical men are made to constitute a controlling element. We entirely agree, therefore, with the sentiments on this matter expressed by Dr. Horatio R. Storer, of Newport, at the last meeting of the Rhode Island Medical Society. Dr. Storer reminded his hearers that in Providence, as in Newport, the control of sanitary matters was still largely in the hands of non-medical officials, who, however excellent they might be as citizens, were unfit for so strictly medical a trust. In so far as the propensity of legislators to make the medical members of sanitary boards unequal in authority to their non-medical colleagues has any other motive than that of keeping, for themselves or their allies, the control of a little patronage, we presume it is founded on the notion that medical men are not apt to be fitted for executive work; but this idea ought to have been dispelled by the country's experience during the late civil war, when the military hospitals were administered by the army surgeons, not only from a professional point of view, but in every important detail of their management. It may well be doubted if any public trust of equal magnitude and presenting like difficulties was ever more creditably discharged.

THE NEW COMMISSIONER OF PUBLIC CHARITIES AND CORRECTION.

In view of the tendency to subordinate the medical to the lay members of sanitary bodies, it is satisfactory to learn of Dr. Simmons's appointment as a member of the board of Commissioners of Public Charities and Correction. The institutions under the board's care, from having been but a few years ago little else than almshouses and houses of penal detention, have, at least as regards several of them, attained to a high rank among our hospitals; consequently, their affairs are in great measure medical. Even had they remained as they were thirty years ago, their sanitation would long since have called for the participation of medical men in their management. When the change is taken into account, when we consider that the hospitals under the board's control have risen to the first importance, not only as places of refuge for the sick and injured, but as sources of instruction for medical students and for nurses, it seems strange that the propriety of allowing the medical profession some representation in the governing body has not until now been recognized.

PARALYTIC VERTIGO.

At a late meeting of the Paris *Académie de médecine*, Dr. Haltenhoff, of Geneva, gave the histories of several former and recent cases of a neurosis termed paralytic vertigo (*vertige paralysant*) observed in agricultural laborers and shepherds in the neighborhood of Geneva. From a summary published in the "Gazette hebdomadaire de médecine et de chirurgie," it appears that the affection is characterized by attacks of paralysis of the muscles of the back of the neck and those of the limbs, a sensation of vertigo, pains radiating from the nucha, and blepharoptosis, without any organic sign of disease. It is seen only in persons who live in hot, ill-ventilated out-houses, and ceases when they are better housed and allowed to rest; so that it is suggested that it may be due to a special miasm, engendered by their insanitary surroundings.

BERGEON'S TREATMENT OF PHTHISIS WITH GASEOUS ENEMATA.

We have received a number of communications asking for information in regard to this novel method of treating consumption. The theory of the treatment, together with general directions for a ready method of carrying it out and a statement of the encouraging results that had been observed in Paris, was given in our Paris correspondent's letter dated December 1, 1886, and published in our issue for December 18th, on page 688. For the information of those to whom that number of the Journal is not accessible, we will say that the theoretical basis of the treatment is as follows: Carbon dioxide (carbonic-acid gas) is well borne in the alimentary canal, from which it is gradually absorbed, to be eliminated by the lungs. Mixed with certain other gaseous or volatile substances, it carries them along with it to the lungs, where they are enabled to exert their medicinal action directly upon the pulmonary tissue. Hydrogen sulphide (sulphureted hydrogen) is supposed to act with special energy in destroying the tubercle bacillus; hence it has been largely used, mixed with carbon dioxide, but other medicaments in considerable variety have been resorted to also.

In our issue for March 19th, on page 324, we gave a summary of Dr. J. H. Bennett's observations in Paris, which were quite favorable to the method as at least a palliative; and in the number for March 26th, on page 362, we published some interesting remarks on the subject made at a meeting of the Philadelphia County Medical Society, by Dr. J. Solis-Cohen and Dr. William Osler. It was soon evident that the matter was beginning to meet with attentive consideration in this country, and our instrument-makers began to announce that they were ready to furnish the necessary apparatus. As will be seen by our advertising pages, in particular the firms of Codman & Shurtleff, of Boston, and James W. Queen & Co., of Philadelphia, are prepared to supply the apparatus, together with directions for its use. In another part of this issue of the Journal we give an extract from an interesting pamphlet on the subject, published by the last-named firm. The subject is announced as one of the topics to be discussed at the meeting of the Association of American Physicians, to be held in Washington next week, and, on the whole, professional opinion concerning its merits seems in a fair way to become settled before long.

THE POLICEMAN AND THE PILL.

It is curious to note the vicissitudes of a yarn in its progress over the world—how in one way and then in another it gets modified, sometimes beyond recognition. An amusing example is furnished in a recent number of a Paris medical journal, in which an incident that we recounted some months ago as having happened in Paris is related as having occurred in London. It was that of the abusive remark "You act on me like a pill" (*vous me faites l'effet d'une pilule*), addressed by an infuriated woman to a policeman, for which she was taken before a magistrate, who decided that, inasmuch as there were many kinds of pills, including some that had an agreeable effect, there was really no proof that she had not actually intended to compliment the officer, since she had omitted to specify the particular sort of pill she had in mind; and therefore dismissed the complaint. Our Paris contemporary reproduces the story with entire accuracy, except that, quoting from a journal called "Technics," it lays the scene in London instead of in Paris.

JERUSALEM FROM A MEDICAL POINT OF VIEW.

The "Lancet" states that the sanitary condition of the city of Jerusalem is deplorable, and that the work of the medical staff of the English Hospital for Jews is not only that of treating disease, but also that of directing the people's minds to the paramount importance of cleanliness and sanitation. Malarial fever heads the list of diseases for which treatment is sought, but many of the applicants who come from Persia, Armenia, Circassia, Tunis, and other countries are found to be suffering with affections of the eyes. These persons say that they prefer to come to an English hospital, and it is highly to the credit of the London Jews' Society that its hospital at Jerusalem, which has now been in operation for more than forty years, furnishes gratuitous aid to all who apply, without regard to the nature of the cases. It is said that there are now about 25,000 Jews in Jerusalem. The hospital has twenty-six beds. There are other like institutions in the city, established by the charitable of different nationalities.

THE RECUPERATIVE POWER OF CHILDREN.

The wonderful energy of the infantile constitution in recovering from serious traumatic injuries is so often exemplified as to be taken quite as a matter of course, and to be counted on in the prognosis. The manifestation of this self-restorative power in cases of grave disease is commonly not so tangible, and doubtless frequently fails to make a like impression on the observer, so that striking instances are worthy of note. An interesting case in point is given by Dr. W. Pasteur, in a recent issue of the "Lancet"—one, too, that possesses an additional feature of interest from the fact that the child was suffering from a rare affection, paralysis of the diaphragm. The patient was five years old, and the paralysis, which involved not only the diaphragm, but all four of the limbs, together with great enfeeblement of the muscles of the neck and trunk, was of diphtheritic origin. The superior costal type of the breathing and the complete absence of epigastric protrusion during inspiration, coupled with such protrusion during but not before attempts to cough, were so marked as to make the diagnosis of diaphragmatic paralysis certain. As the author remarks, the recovery furnishes a striking example of the extraordinary recuperative power possessed by children, and of the paramount importance of leaving nothing undone in the way of treatment on the plea that a case is hopeless.

PUBLIC CRITICISM OF PRIVATE AFFAIRS.

A French newspaper having stated that Dr. Bernard, of Thiancourt, had just performed a surgical operation, and that in consequence the patient had died, the doctor brought an action for libel, alleging that the newspaper had implied that the death was attributable to the operation. The tribunal before which the case first came took the ground that the matter was of public interest, and authorized the newspaper to substantiate its allegation. An appellate court, however, overruled this decision, declined to allow the defendant to plead, declared the allegation to be groundless, and imposed damages to the amount of 10,000 francs, holding that the injurious statement related to a matter of an essentially private nature, and quite outside the proper field of public criticism or newspaper comment. We quite agree with the "British Medical Journal," in which we find the account of the case, that this decision is most wholesome, and we should like to see it viewed as a precedent in this country, where the newspapers are far too free with their comments on the affairs of private life.

PUBLIC PSYCHOLOGICAL EXHIBITIONS.

How far the custody of public morals may probably be held to come within the scope of a board of health's work is a matter of doubt. There can be little doubt, however, it seems to us, of the wisdom of the action which has lately been taken, according to the "Union médicale," by the sanitary council of one of the Swiss cantons, whereby public exhibitions of hypnotism, animal magnetism, or somnambulism are prohibited. Even purely scientific experiments in these matters, it is said, are not to be allowed without the previous consent of the council. It is undeniable that a degrading element is apt to creep in when perverted psychical action, whether real or pretended, is exhibited before a miscellaneous audience. Besides that, the performances excite attempts at imitation, and ignorant and irresponsible persons are led to try their supposed powers on those whose state of health, mental or emotional if not bodily, may be seriously affected by such tampering.

THE SENSATIONS OF THE DYING.

It is doubtless the case that in many instances—and perhaps they are the majority—dying persons lapse gradually into an unconsciousness that ends their bodily pain and saves them from the anguish of the final parting with those they leave behind. It is not uncommon, however, for clearness of comprehension to persist to the last, and perhaps it is still more common for some of the special senses to preserve their activity. We think it was Ernst Wagner who, in his "General Pathology," dwelt particularly on the preservation of the sense of hearing in many cases long after the apparent occurrence of unconsciousness, and who tenderly cautioned his readers that this possibility should be borne in mind. The following touching account of the late Dr. Wilson Fox's last moments, when his friend Dr. J. Russell Reynolds was at his bedside, is given in the "Lancet's" obituary: "On the next morning, when obviously and consciously dying, and after his eyes had been fixed for a few minutes on the angle of the room, and as some gray streaks of dawn were entering it, he said suddenly—'There is a great light, a great glare of light. . . . I feel so strange . . . a glare of light. What is it, Reynolds?' The reply was—'It is the peace of God.' He grasped his friend's hand firmly and said, 'God bless you.'"

THE VIENNA GENERAL HOSPITAL.

About a fortnight ago rumors began to take the form of press dispatches alleging the discovery of grave abuses among the employees of the famous *Allgemeines Krankenhaus* of Vienna. These statments have lately taken more definite shape, and relate chiefly to accusations of extortions of money from the patients by the nurses and of neglect or ill-treatment in the cases of patients who were unable or unwilling to meet the demands made upon them. The hospital, as is well known, is an institution of which the Viennese are particularly proud, and one that has taken a conspicuous part in the advance of medical knowledge for many years past. For these reasons, in addition to considerations of humanity, it is earnestly to be hoped that the official investigation which has been set on foot will either prove the falsity of the imputations or else speedily do away with any further cause of complaint.

VICARIOUS PHILANTHROPY.

It appears that a number of British peers, members of Parliament, bishops, authors, and other grand personages have allowed their names to be used in a circular setting forth a scheme to provide treatment by specialists for persons who can neither avail themselves of existing charities nor, for financial reasons, secure private attendance by eminent specialists—said treatment to be furnished at a central establishment during a certain number of hours daily "at a fixed fee of five shillings." Commenting on this fresh demand upon the generosity of the medical profession, a correspondent of the "British Medical Journal" aptly remarks: "When the Lord Chancellor, the Solicitor, and Attorney-General can be induced to give their legal advice to the poorer members of our profession at a reduced but fixed fee of 'five shillings,' it may be time for our brethren to consider the propriety of assisting the 'Association for the Treatment of Special Diseases.'"

ITEMS, ETC.

The Health of New York City.—During the four weeks ending Tuesday, May 24th, there were reported to the Sanitary Bureau of the Fourth Division of the Health Department 30 cases of typhoid fever and 8 deaths; 238 cases of scarlet fever and 37 deaths; 21 cases of cerebro-spinal meningitis and 18 deaths; 301 cases of measles and 32 deaths; 427 cases of diphtheria and 204 deaths; 81 cases of small-pox and 22 deaths; and 1 case of typhus.

The Case of the Crown Prince of Germany.—It appears by the press dispatches that Dr. Morell Mackenzie, of London, has removed from one of the Prince's vocal bands, by way of the mouth, a small growth which Professor Virchow pronounces to be benign.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 24, 1887:

DISEASES.	Week ending May 17.		Week ending May 24.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	..	..	1	0
Typhoid fever	8	1	10	3
Scarlet fever	77	9	62	9
Cerebro-spinal meningitis	2	2	5	5
Measles	102	8	49	12
Diphtheria	128	49	110	62
Small-pox	19	5	25	3

The Oregon State Medical Society will hold its fourteenth annual meeting in Portland, on Tuesday, Wednesday, and Thursday, June 14th, 15th, and 16th.

Beri-beri in Dutch India, according to the "Union médicale," is to be investigated by a commission sent out from Holland, with Dr. Pekelharing at its head. A laboratory has already been opened at Atech.

The Anatomical Society of Great Britain and Ireland to be devoted to the study of human and comparative anatomy, including embryology, was lately founded in London, at a meeting of which Professor Humphry was the chairman. The same gentleman was subsequently elected president.

The British Medical Association will hold its fifty-fifth annual meeting in Dublin, on the 2d, 3d, 4th, and 5th of August.

Changes of Address.—Since our last notices were published we have been informed of the following:

Bleything, G. D., from 135 E. 78th St. to 1008 Madison Ave.

Robinson, A. R., from 356 W. 42d St. to 248 W. 42d St.

Tuttle, G. M., from 49 E. 30th St. to 48 W. 38th St.

Barkan, L. (Brooklyn), summer address (June 7th to Sept. 30th), Lower Saranac Lake, the Adirondacks, N. Y.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 8, 1887, to May 21, 1887:*

Alexander, C. T., Lieutenant-Colonel and Surgeon. Granted leave of absence for four months, with permission to go beyond sea, to take effect May 23, 1887. S. O. 105, A. G. O., May 7, 1887.

Harvey, P. F., Captain and Assistant Surgeon. Granted leave of absence for four months, with permission to go beyond sea, to take effect June 10, 1887. S. O. 105, A. G. O., May 7, 1887.

Biart, Victor, Captain and Assistant Surgeon. Ordered for examination by Army Retiring Board at Fort Leavenworth, Kansas. S. O. 107, A. G. O., May 10, 1887.

Elbrey, F. W., Captain and Assistant Surgeon. Ordered for examination by Army Retiring Board at Washington, D. C. S. O. 109, A. G. O., May 12, 1887.

Taylor, Morse K., Major and Surgeon. Retired from active service, May 14, 1887. S. O. 111, A. G. O., May 14, 1887.

White, R. H. Promoted to be surgeon, with the rank of major, to take effect from May 14, 1887.

Hall, John D., Captain and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 74, Department of the Columbia, May 11, 1887.

SUTER, WILLIAM N. Appointed assistant surgeon, U. S. Army, with the rank of first lieutenant, to rank as such from May 16, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending May 21, 1887:*

CURTIS, L. W., Passed Assistant Surgeon. Ordered to the U. S. Steamer Quinnebaug.

BAKER, J. W., Passed Assistant Surgeon. Ordered to the U. S. Naval Hospital, Chelsea, Mass.

PRICE, A. F., Surgeon. Ordered to board duty, Annapolis, Md.

GRAVATT, C. U., Surgeon. Detachment from the U. S. Steamer Michigan revoked.

LUMSDEN, G. P., Passed Assistant Surgeon. Ordered to the U. S. Steamer Michigan revoked.

SIEGFRIED, C. A., Surgeon. Ordered to the U. S. Steamer Quinnebaug.

PERSONS, R. C., Surgeon. Detached from the U. S. Steamer Saratoga.

FARWELL, W. G., Surgeon. Ordered to the U. S. Steamer Saratoga.

DIXON, W. S., Surgeon. Ordered to special duty, Baltimore, Md.

ROGERS, B. F., Surgeon. Ordered to the Marine Rendezvous, New York.

WELLS, HOWARD, Passed Assistant Surgeon. Ordered to the U. S. Steamer Jamestown.

WISE, J. C., Surgeon. Detached from the U. S. Steamer Jamestown.

HARVEY, H. H., Surgeon. Ordered to the U. S. Steamer Iroquois.

WAGGENER, J. R., Surgeon. Detached from the U. S. Steamer Iroquois.

WHITE, S. STEWART, of Frederick, Md. Commissioned an assistant surgeon in the U. S. Navy, May 19th.

Society Meetings for the Coming Week:

TUESDAY, *May 31st:* American Climatological Association (first day—Baltimore); Medical Societies of the Counties of Queens (annual—Mineola) and Rockland (annual), N. Y.; Boston Society of Medical Sciences (private).

WEDNESDAY, *June 1st:* Pennsylvania State Medical Society (Williamsport); New Hampshire State Medical Society (Concord); American Climatological Association (second day); Harlem Medical Association of the City of New York; Medical Societies of the Counties of Cattaraugus (annual—Salamanca) and Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association; Medical Society of Orleans County, Vt. (annual).

THURSDAY, *June 2d:* Association of American Physicians (first day—Washington); New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

FRIDAY, *June 3d:* Association of American Physicians (second day).

SATURDAY, *June 4th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

OBITUARY NOTES.

Thomas F. Rochester, M. D., of Buffalo, died on Tuesday, the 24th inst., in the sixty-fourth year of his age. The deceased was born in Rochester, N. Y., and educated at Geneva College, from which he was graduated in 1845, and took his degree in medicine from the University of Pennsylvania in 1848. After a term of service at Bellevue Hospital and a sojourn in Europe, in 1851 he settled in New York, where he remained until 1853, in which year he removed to Buffalo and was appointed to the chair of the principles and practice of medicine and clinical medicine in the University of Buffalo, which position he held at the time of his death. For many years he was consulting physician to the Buffalo General Hospital. He was a member of the New York Pathological Society; the Medical Society of the County of Erie, of which he was president in 1864; the Buffalo Medical Association, of which he was president in 1860, and of the New York State Medical Association. His death is said to have been due to Bright's disease.

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Proceedings of Societies.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

First Annual Meeting, held at Lakewood, N. J., May 17 and 18, 1887.

Dr. E. L. KEYES, of New York, temporary chairman, called the meeting to order.

Officers for the Ensuing Year were elected as follows: President, Dr. Edward L. Keyes, of New York; vice-president, Dr. George Chismore, of San Francisco; secretary and treasurer, Dr. Robert W. Taylor, of New York. It was voted to limit the number of members to fifty.

The President's Address.—The president, in a brief address of welcome, first alluded to the circumstances which had led to the formation of the association. Then, speaking of its objects, he said he need not enter into the question of specialism as distinguished from general medicine and surgery. That distinction was being made by the circumstances of the times. Concentration of labor certainly yielded more perfect results than its general distribution. There was a field ready, and those who wished might enter in and work. A man's membership in this association did not imply that he confined himself to its peculiar lines of study, but it furnished to him an arena in which he might develop his ideas and display the work he had done under the keen criticism of minds familiar with the subject and capable of still further refining by their discussion the quality of his work and enhancing its value. A picture of the triumphant march of surgery during the last decade was then drawn. With so much accomplished and such a portion of the mine worked out, the timid spirit might inquire what more was to be done. It was for the members of the association to take a part in answering that question so that they might be able at the call of the Great Master to return to him with interest that talent with which He had seen fit to endow them.

The Comparative Frequency of the Chancroid.—In a paper on this subject, Dr. F. B. GREENOUGH, of Boston, referred to the marked individuality that was given to the chancroid by the text-books, in spite of which the great difference in the statistics by different observers would show that they must have used different systems of classification. Throughout this divergence of statistics, however, two facts appeared: 1. That this lesion had diminished in its relative frequency to the true chancre with the exception of two periods in Paris—*i. e.*, during the war and siege (1870–'71), and before and during the exposition, after 1875. 2. That it occurred more frequently in hospital than in private practice. In 1837–'38 Bassereau gave the ratio of the chancroid to the true chancre as high as 30 to 1. Records for ten years—from 1840 to 1850—at the Hôpital du midi gave 4 to 1. Fournier's private cases gave 1 to 3. In the later tables the ratio of frequency in the Paris hospitals had diminished, with the two exceptions mentioned, and Mauriac's ratio for 1880 was 1½ to 1. The author's records for thirteen years and nine months of his service at the Boston Dispensary —*i. e.*, from July 1, 1873, to March 31, 1887—gave a total of 1,593 cases, of which 391 were chancroids, 219 true chancres, 931 doubtful, and 52 herpes progenitalis, making the chancroid stand in proportion to other lesions in the ratio of ¼, or 1 to 3. These records were unsatisfactory, inasmuch as they showed merely the diagnosis made at the time of the patient's first visit. His private case-books showed that, of the last 100 cases seen, 10 were chancroids, 63 true chancres, 13 doubtful, and 14 herpes progenitalis—a ratio of 1 to 10. Although much smaller numerically, these were much more reliable, as the diagnosis was made after having the patients under continued observation. Both sets of statistics showed a diminution in the frequency of the chancroid. This he thought in part was due to a change in type of the disease, a similar change in the severity of the cutaneous manifestations in syphilis having been noticed by him, although he considered that syphilitic affections of the nervous centers, especially in the earlier stages of the disease, were much commoner now than formerly. Herpes progenitalis, not having been recognized by the earlier syphilographers, had undoubtedly often been taken for chancroid, as had probably also a not uncommon inflammation of a sebaceous follicle on the shaft of the penis; and the treatment of either of these lesions by destructive cauterization, which had formerly been the general practice, would make a very good imitation of a chancroid. The fact that the chancroid had just been recognized and described as a local venereal sore, distinct from the true chancre, would make it an object of interest and eagerly sought for by the writers of that time. He thought that at present a virulent bubo was not more frequently seen in connection with a chancroid than with a true chancre, which he considered somewhat due to the fact that this lesion was not so frequently imitated by caustics; and he also ascribed the greater rarity of the chancroid to the fact that it was no longer manufactured by cauterizing every venereal sore that was not a typical true chancre.

In the discussion the opinion was generally expressed that chancroid occurred less frequently in proportion to chancre now than formerly. Dr. Otis and Dr. Keyes maintained that cauterization of a chancroid was beneficial when done early, say before the tenth day.

Suprapubic Cystotomy.—The President read a paper in which he advocated this operation for vesical tumors, for certain foreign bodies, in cases of very large stone, and in some very exceptional instances for purposes of exploration—and in patients of any age. He condemned the general adoption of the method as a usual one for the removal of stone, and especially objected to its use in children; on these points he gave some statistics. He had done the operation for a large fibropapilloma, for a flat villous growth, and for a large calculus. He detailed his practice in dealing with hæmorrhage, said that he believed in vesical suture, and described his method. He showed a new double-curved retractor, and described his method of effecting perineal drainage by puncture, probe, and catheter, without making the large incision usually considered necessary for this purpose.

Hysterectomy for Pyelitis with Obstruction.—Dr. A. T. Cabot, of Boston, first referred to a case of pyelitis due to obstruction from pressure of a fibroid of the uterus in which no operation was performed. The autopsy verified the diagnosis. He then gave a history of the case in which he had operated—one in which the symptoms of obstruction to the ureters came on late in the history of the fibroid. The tumor was low in the pelvis, and of about the size of a child's head. A second tumor, of about the size of an orange, occupied the region of the umbilicus, and was removed at the first operation, as it appeared by suppuration to be giving rise to septic symptoms. It was connected with one ovary. While micturition became less frequent, subsequently pus appeared in the urine, and, other symptoms pointing to pyelitis from pressure of the fibroid within the pelvis being present, an operation for the removal of the tumor was undertaken. It was firmly wedged in the pelvic cavity, from which it was pushed up with some difficulty, and the body of the uterus and part of the neck were removed with it. The urine had nearly cleared up since the operation, and the patient was desirous to return to her work, although longer rest was advised.

Some Cases of Pyelitis in which Frequent and Painful Micturition was the Chief Symptom.—Dr. George Chismore, of San Francisco, author of the paper, being absent, it was read by the secretary. It gave the histories of two cases. In one case the true condition became manifest by the abscess connected with the kidney pointing and opening externally, after which the patient recovered. In the second case the diagnosis of cystitis as the principal cause of the symptoms was shown to be erroneous at the autopsy, when the kidney was found riddled with abscesses. In many cases a diagnosis of pyelitis must be made by exclusion alone.

Horny Growths of the Penis.—Dr. J. H. Brinton, of Philadelphia, read a paper in which he referred first to the cases recorded in literature. There were only fourteen cases the histories of which were sufficiently well given to be of value for purposes of comparison. The longest growth on record was three inches long. The specimen now presented by the author had been removed by him after it had been growing more than four years. It had sprung from the seat of a wart, which had itched occasionally and caused the patient to rub it. It had given no trouble excepting mechanical interference with coitus. It sprang from the base of the glans, at the coronary border, was attached to both the glans and prepuce, was an inch and seven eighths long, an inch and three eighths in circumference at its base, and curved forward. An interesting feature was the fact that the meatus was involved in the growth, and so much encroached upon that the urine escaped in almost imperceptible drops. The only treatment for the condition was amputation. This patient left the hospital two or three weeks after the operation.

Dr. Cabot had, about twelve years ago, seen a specimen of horny growth of the penis, perhaps as large as the thumb-nail removed by Dr. Bigelow.

On the Choice of Operation for the Removal of Vesical Calculus in Cases complicated by Prostatic Obstruction.—Dr. J. P. Bryson, of St. Louis, the author of the paper, thought it strange that prostatic enlargement had had so little influence in determining the choice of the cutting or crushing operation for stone in the bladder. He believed that very rarely was section made purely for prostatic reasons, or with the intention not only of removing the stone, but of reducing the size of the prostate as well, and thus reducing in intensity at least the causes which were most active in the production of stone, and lessening the sufferings of the patient in after years. Within the past few years he had had some clinical experience which had led him to believe that this should have more weight in the choice of operation for stone than had generally been accorded it. Since 1884 he had operated for stone by pre-rectal section in four cases, all complicated by a large hypertrophic prostate. The choice of the operation was not determined in these cases by the desire to reduce the size of the prostate. As a matter of fact, however, the prostate had become manifestly reduced in size after the operation, as was determined by measurement and the ease with which the finger entered the bladder at a subsequent operation made necessary for the removal of a second stone. The estimated diminution in size of the prostate was from one third to one fourth. The difficulty of estimating a change in the size of the prostate by a rectal examination was pointed out. That inflammatory changes might have much to do with causing the enlargement and hypertrophy of the prostate with cystitis, he was led to believe by observing certain cases whose histories he recited. He did not think the enlargement of the prostate would have been equally reduced by other operations for the removal of the stone. In all of his cases, occurring in old people, the operation had resulted in marked benefit.

The President cited facts which went to show a diminution in the size of the prostate after certain operations in which this gland was more or less cut or torn, but he believed that the cutting operation for the removal of stone in old people was not justified on this ground, as statistics showed that a considerable mortality followed it, while litholapaxy was comparatively without danger. The safer operation should be adopted for the removal of the stone, and, if the symptoms demanded it, the prostate could be dealt with subsequently.

(*To be concluded.*)

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of April 7, 1887.

The President, Dr. Thomas M. Drysdale, in the Chair;
Dr. W. H. H. Githens, Secretary.

Late Infection in the Puerperal State.—Dr. B. C. Hirst read a paper on the ætiology and treatment of cases of this affection. He said that the object of the paper was merely to relate briefly the histories of four cases, all of which he believed were due to the same cause, all yielding to the same treatment, and conveying, therefore, a lesson of some interest and value. The first case was that of a young primipara, who had been delivered without difficulty after a moderately long labor. She had left her bed on the eleventh day, having had no fever and having manifested no unusual symptom. Two days afterward her cervix was exposed to view by means of a bivalve speculum, and a slight laceration was discovered, healing by granulation. The following morning, the fourteenth day after delivery, the patient was unwell, her temperature was 102° F., large doses of quinine were given, but the temperature rose to 103°, where it remained, with slight morning remission, for two days. A more careful examination being made, it was discovered that the uterus was unusually large, that the os was patulous, and that there was a foul-smelling discharge, with considerable abdominal tenderness. The history of the case with these symptoms pointed to the retention of membranes, possibly a portion of placenta, and their subsequent decomposition, that had been originated by the admission of air to the vagina and uterus by the use of the speculum. Acting upon this diagnosis, the uterine cavity was lightly scraped out with a dull curette and a large quantity of decomposing decidua removed. This was followed by an intra-uterine injection of bichloride of mercury through a Bozeman's double catheter. The woman's temperature at the time was 103°. The following morning it had sunk to 99°, and within twenty-four hours was normal, and so remained.

The second case was also that of a primipara. The labor had been terminated by the forceps. Upon the eleventh day the woman, although perfectly well until that time, had a morning temperature of 101°, rising in the evening to 102°. The uterus was found larger than it should have been. The os was patulous, and there was a fœtid discharge. Profiting by the experience gained in the first case, the uterus was curetted and a considerable amount of decidua removed, and an intra-uterine douche given. In this case the womb almost at once contracted and the discharge ceased; but the patient had, unfortunately, an exacerbation of a tubercular trouble in one lung which kept the temperature high for some days.

In the third case, also that of a primipara, after an instrumental labor and an apparently normal lying-in, the temperature rose on the twelfth day to 99·8°, and on the following day to 100°. At the same time a fœtid muco-purulent discharge made its appearance. In this case a very large quantity of decidual membrane was removed, and the scraping was repeated on the following day, whereupon the temperature fell to normal and the discharge ceased.

The fourth case was that of a primipara, who on the sixth day, after an easy labor, had a temperature of 100°, although previously there had been no fever; the uterus was very large, and the os quite patulous, but there was not much discharge. The same treatment was employed that had proved successful in the other cases, with the result of reducing the temperature within twenty-four hours to normal, where it remained.

Now, this experience was entirely too limited to enable one to come to a definite conclusion as to the cause of late infection in the puerperal state, but these cases suggested to the speaker's mind the possibility at least that the retention and subsequent decomposition of shreds of membrane or fragments of placenta would be found to be the most frequent cause of fever late in the puerperal state, and that, if not interfered with, this condition might lead to septicæmia and pyæmia. Other causes of fever late in the puerperal state were, of course, well known. Partially healed wounds of the cervix, vagina, and perinæum might be torn apart and the fresh wounds thus produced might give entrance to the germs of septicæmia. Exposure to an atmosphere impregnated with emanations from sewers or water-closets from bad sanitation might give rise to febrile diseases at any time during the puerperium, as proved in the cases related by Dr. Playfair in a recent English journal. There was a possibility that the pyogenic micro-organisms, which might carry on their work in the uterine cavity without very serious consequences to the patient, might in the tubes manufacture their product, pus, in such quantities that it could not be drained off, thus producing an abscess that might possibly open into the peritoneal cavity. There was a still more remote possibility that a pyosalpinx might be developed late in the puerperium by other pathogenetic micro-organisms, by those of gonorrhœa, of tuberculosis, or even of actinomycosis. Finally, any of the febrile diseases that were liable to attack a woman at any time might fasten themselves upon her during the lying-in period, but, as he had already said, it seemed to him that the most common cause of late infection in the puerperal state was the decomposition of retained membrane or fragments of placenta, and that therefore the curette and the intra-uterine douche might be employed as a routine treatment in all cases where there occurred late in the puerperium fever associated with a large uterus, a patulous os, and a foul-smelling discharge. This treatment could do no harm, but might effect much good. The speaker's experience in this direction was, however, limited, and upon this point he would like to have the opinion of the society, whose experience collectively and individually must be greater than his own.

The Antiseptic Pad.—Dr. Hirst exhibited the antiseptic pad used by Richardson, of Boston, and Garrigues, of New York, to prevent the entrance of pathogenetic germs into the vagina after labor.

Dr. Parvin was not impressed with the necessity for the antiseptic pad, believing that as good results could be had from antiseptic napkins. The oiled silk or muslin used in making it, it seemed to him, might hinder the ready escape of the lochia. After labor the vagina was practically a closed canal, open only for the egress of uterine discharge, and disease germs could not enter unless that canal was opened by some manipulation of the nurse or the physician, as in giving a vaginal injection, or in making an examination. It seemed to him needless to completely close the vulva, and it also seemed possible that such closure hindered the escape of the lochia. But, be this as it might, if the vulva was carefully washed twice a day with an antiseptic solution, and if napkins that had been wrung out of a 1-to-2,000 corrosive-sublimate solution were applied over it, and changed more or less frequently according to the amount of the flow, he thought as good results could be had as by using the antiseptic pad. Moreover, it seemed to him doubtful whether antiseptic pads, though they had proved very useful in maternities, would be readily accepted in private practice, especially in the country. In regard to the results in hospital practice from the use of antiseptics, he had no doubt of their value, and should insist upon their employment. So, too, in private practice he had used them for some years; but it was only comparatively recently that he had learned how they should be used. The speaker objected to the glass tubes for intra-uterine injections. Take, he said, for example, Chamberlain's, and especially that of the late Albert H. Smith, and they would be found too large for use in some cases where injections were required. Then, too, the liability of glass to break was to him a conclusive argument against the introduction of an instrument made of this material into the uterus, or into the vagina. The best instrument was, in his opinion, Bozeman's catheter. Formerly it had been his custom to wait in cases of septic infection until the flow was offensive, and then at first to endeavor to correct the condition by vaginal before resorting to uterine injections. He now knew that was wrong, for the patient might perish, or have a protracted illness, and then make but partial recovery, without the lochia at any time having an offensive odor. Within a year he had seen, in hospital practice and in consultation, eight cases of septic infection where the happiest results were promptly had from antiseptic solutions injected into the uterus. Most, if not all, of these patients probably would have recovered without these injections, but their recovery, judging from similar cases previously observed by him, would have been slow, possibly imperfect, and after a more or less prolonged period of suffering upon their part and of anxiety on the part of the practitioner. We had in antiseptic uterine injections the essential and the almost invariably successful treatment of puerperal septicæmia, if this treatment was begun soon enough and properly carried out.

The President, while conceding the importance of antiseptic precautions in hospitals, thought the advantage of these measures in private practice more difficult to prove. Until he relinquished obstetric practice, in 1874, he had met with but five cases of puerperal fever in over two thousand deliveries, and in none of these women had any antiseptic precautions been used other than cleanliness, as they were not then known.

Dr. Longaker believed with Dr. Hirst in the great utility of intra-uterine post-partum medication. Dr. Hirst had neglected to notice an agent in which the speaker had the greatest confidence—iodoform as used by Ehrendorfer, of Vienna, in the form of one-hundred-grain pencils. One of these was introduced into the cavity of the womb after irrigation; it dissolved very slowly, and continued to medicate the entire utero-vaginal canal for forty-eight or seventy-two hours. In removing shreds of membrane, after labor at term or after an incomplete abortion, he used the finger, and preferred it to any form of curette he had used. Theoretically he would prefer a glass tube for intra-uterine irrigation, chiefly for the reason that it was more easily cleansed and kept clean. Hitherto he had always used the Bozeman cannula, the only objection to which was the difficulty of cleansing, and hence a possible danger of carrying sepsis from one case to another.

Dr. Baer emphatically indorsed what had been said in favor of Bozeman's tube for intra-uterine irrigation and against the glass tube. The return current was sure, and the small size of the instrument, as compared with the glass tube, rendered the introduction easy and safe. Regarding the pad exhibited by Dr. Hirst, if he believed the theory that the atmosphere was constantly impregnated with germs which poisoned whenever they came in contact with open vessels, he would certainly advocate the use of an impervious covering for the vaginal orifice; for the theory taught that where there was no contact with the air there could be no sepsis. But he did not believe this fully. Therefore he thought it safer to place the napkin under and not over the vulva, so as to permit as perfect drainage as possible, thereby giving free exit to the lochia by making of the vagina a drainage-tube, its natural function after parturition.

Dr. Hirst remarked that the pads were used dry by Dr. Richardson and moist by Dr. Garrigues.

Labor complicated by Large Hard Heads.—Dr. M. Price said that he had been called to a patient three weeks before her delivery. She informed him that she was in labor and that her time had expired. Examination showed the cervix but little dilated, the os not being larger than a silver quarter of a dollar. There was quite a discharge from the vagina. The pains were at short intervals and were unquestionably labor-pains. The woman was in good condition and he had no doubt that labor would go on. He left, giving instructions to send for him if the pains increased, and said that if not sent for he would call next day. He had attended this woman in two previous pregnancies, both children being large and the labors tedious; so he had anticipated that this one would be a slow labor. The next day the pains were less than on the previous day, and there was no change in the cervix. He did not hear from her again for three weeks, when the husband called and stated that his wife had been in labor all night and all day. He now found the cervix wide open, but the presenting part of the child so high that he was not able to say what part was presenting. Passing the entire hand into the vagina, he found a vertex presentation in the second position, but the head would not engage. After waiting two hours, he found that the head had been pushed to the side of the pelvic inlet with the occiput resting on one side and the neck and shoulders on the other, and he determined to ascertain the cause of the difficulty. He pushed his hand up into the womb, and had no difficulty in bringing the head back to its first position, but found that it was completely ossified. There was no pulsation in the cord that he could detect, and he at once decided to deliver by turning, as he thought he could extract the child in that way sooner than in any other. He at once secured the feet, and soon had the body and arms extracted. The forceps was applied to the after-coming head, and it was extracted after quite a pull at the superior strait, but with ease through the soft parts without the instrument. There was no injury to the mother and she made a rapid recovery. The child was still-born. Its head measured sixteen inches in the occipito-frontal circumference. There could be no doubt that the mother's pelvis was much above the average size, as a head perfectly ossified could not have passed through a pelvis of less than sixteen inches and a half in circumference, for the soft parts would take up at least half an inch. Standard authorities gave the circumference of the female pelvis at the inlet at from thirteen inches to thirteen and a half.

Abdominal Sections.—Dr. Joseph Price reported a mixed group of cases that had been treated by the methods of which Mr. Tait had been the first and chief advocate, and made the following reference to Dr. T. Gaillard Thomas's article on "Laparotomy as a Diagnostic Resource," published in the "Medical News," Philadelphia, December 11, 1886. Therein Dr. Thomas expressed in full Mr. Tait's views. They were simply, without the mention of Mr. Tait's name, an embodiment of the views given vent to by Mr. Tait while on a visit to America in the autumn of 1884. Dr. Thomas would select the text of Mr. Tait's law—his own axiom—as a motto for the walls of a hospital devoted to abdominal surgery: "When a doubt as to the diagnosis of an abdominal neoplasm of serious character, or of certain obscure pathological conditions of the abdominal cavity which threaten life, exists, give the patient the benefit of explorative incision." Mr. Tait, in like clear and terse English, had expressed the same view in a clinical lecture at the hospital of the Jefferson Medical College, September 15, 1884, when he said: "My experience teaches me that it is a surgical crime to allow a patient to go to her grave without operation where it offers a possibility of relief." Dr. Thomas, with great frankness, reported five cases as examples of the class in which he had to regret non-interference on his part: Cases in which "we" or "I" decided against operation—the patients died. Further, he said: "I regret to say that I could more than double the number of cases illustrating this part of my paper. Few such cases occur to me now for the very reason that I am a strong advocate for explorative incision as a diagnostic resource." As to another class of cases in which Dr. Thomas had met with happy results, he had reported as follows: "There is a class of cases in which, in my hands, explorative incision has yielded such brilliant results that I shall devote full consideration to it; I allude to cases of ascites in the female." Mr. Tait, in the address referred to, had given as an example in point a case in which an operation had been done four years previous. "The patient, a young lady, had an enormously enlarged abdomen, due to ascites, a fact I had recognized. I opened it by incision for exploration and drainage. By this means the fluid is evacuated just as well as with the trocar; but you can not feel anything with a trocar; but with a clean cut of two or three inches you can introduce one or two fingers, and find out the actual condition of the pelvic organs as you can in no other way." The pioneer work done by Mr. Tait, his influence in exploratory work and in the treatment of diseased conditions of the tubes, had been referred to by Mr. Greig Smith in a very fair and generous spirit: "Tait's name is mainly connected with inflammatory diseases of the tubes, and his influence has been strongly felt in the substitution of operation for actual disease as against vague nerve symptoms." The speaker was strongly of the opinion that an incision which admitted only two fingers, and not the whole hand, was a sufficient incision. Dependence upon fingers skilled in manipulation would serve best and effectively guard against danger in any pelvic operation. Herein he differed with Dr. Thomas, who urged: "Make an incision which will admit the whole hand; one which will admit two fingers only is hardly warrantable." There was great danger that a multitude of fingers would irritate the bowels and increase the risk from exposure. Many fatal results attended men beginning the study and practice of surgery of the abdomen. This was illustrated by the statement of an abdominal surgeon: "I do not count my first thirteen cases, because I was learning how to do it." In this there was considerable Rip Van Winkle arithmetic: "We won't count this one." The present good results in the hands of young surgeons must not be attributed to the taking advantage of all the so-called "latest antiseptic improvements." In this relation the speaker made brief allusion to an experience with well-trained young surgeons, six in number, doing nine pelvic operations in cases of inflammatory trouble, with suppuration, adhesion, and matting together of the pelvic viscera. The operations were all completed, with but one death, notwithstanding they were all bad cases.

Dr. Longaker remarked that one of the four cases referred to by the author of the paper was that of a patient who had been under his care, and who had died forty hours after operation, and he gave a brief history of the case.

Virulent Puerperal Sepsis.—Dr. Hirst presented specimens from the body of a patient, by permission of Dr. Parvin, in whose service the case had occurred. He said the specimens were interesting not because they came from a case of puerperal fever, which unfortunately was not a rare disease, but from the rapidity with which the disease had terminated fatally, and from the possible point of entrance of the septicæmic poison. The history of the case before delivery presented nothing worthy of note. Immediately after delivery the temperature was 99·5°, and, in spite of the most energetic antiseptic treatment of the vagina and uterine cavity, the temperature rose to 102°, but dropped again to 99·5°, only again to rise to 102°, where it remained till the woman's death, about seventy-two hours after the birth. The post-mortem examination showed diphtheroid patches in the vagina extending into the cervical canal. The uterine cavity and walls were normal; the peritonæum, tubes, and ovaries healthy; the kidneys were the seat of numerous metastatic abscesses, and there were several infarcts in the liver. The lungs were healthy. The rectum was covered with extensive patches of diptheroid membrane—a very interesting condition, for it indicated the possibility at least that here was the point of infection; and, if this was the case, the specimen at once assumed considerable importance, for the speaker knew of only three such cases recorded in medical literature—one by Winckel, the others by Koester and von Recklinghausen. These specimens might well serve to call attention to the possibility of infection by the administration of enemata and to the importance of observing the most minute precautions as to the chemical cleanliness of every instrument that might come in contact with the parturient or puerperal woman.

A Large Ovarian Cyst cured by Evacuation, Drainage, and Obliteration of its Cavity.—Dr. W. H. Parish said that on January 27, 1887, he operated on a woman, twenty-seven years of age, for the removal of a large abdominal cyst. He saw the patient for the first time on January 24th. She was then under the care of Dr. N. Hickman, who had placed her under his care for operation. She was the mother of four children, the youngest only four months of age. In her last labor she had been attended by a midwife, and but little reliable information could be obtained with reference to the existence of an abdominal tumor during the three weeks following labor. The patient stated, however, that her abdomen had not been unusually large after the birth of the child. About three weeks after labor she was under the care of Dr. Hickman for a few days, during which time she presented the usual symptoms of general peritonitis. She then passed into the hands of others, and was not seen again by Dr. Hickman until just before the speaker operated. During this period of three months she was visited by a number of medical gentlemen. Aspiration was resorted to by one of the number. Laparotomy was repeatedly urged but persistently declined by the patient. The abdomen had increased rapidly in size. Pain had become constant; appetite had entirely disappeared; vomiting had occurred at very short intervals. Hectic had become marked with occasional rigors, and emaciation had reached an extreme point. The lower extremities were but slightly œdematous, and there was no special enlargement of the superficial abdominal veins. The abdomen was greatly distended, tense, and tender, and the patient was so exhausted that she could not rise from the semi-recumbent posture. She was at once transferred from her surroundings of filth and poverty to a private hospital, and the operation was done without delay, as it was apparent that without surgical relief her life could last but a few days longer. There were present Dr. Hickman, Dr. R. P. Harris, Dr. S. D. Lazarus, Dr. John Hand, and Dr. F. A. Packard. The patient had a general sponge bath with soap and water, and stimulants were administered. Before etherization the pulse was 130 in a minute. There was a dull percussion note over the entire abdomen anteriorly, and the diaphragm was pushed well upward by the tumor. Fluctuation was distinct, though palpation suggested a thick-walled cyst, rendered very tense. A diagnosis of ovarian tumor with suppurating contents and extensive adhesions was made. An incision two inches and a half long was made in the median line; without opening the peritoneal cavity the knife cut into the cyst-wall, which was easily recognized by its consistence, color, and anatomical elements. There were anterior adhesions of great extent and firmness. The cyst was opened and a quantity of pus-like fluid of offensive odor escaped. The cyst did not empty itself, and the introduction of two fingers showed large masses of a lymph-like character varying in density and size. The introduction of the hand was required to remove these masses. In the interior were a number of thin septa, such as were seen in colloid ovarian tumors. The great bulk of the contents was an apparent mixture of pus, lymph, and detritus, while part of the contents presented the translucent appearance of the fluid of some ovarian tumors. After thoroughly emptying the tumor it was evident that its walls were everywhere adherent. No portion of the wall could be brought into the abdominal incision. There were evidently dense adhesions to the liver, spleen, stomach, intestines, and the pelvic brim and contents. The tumor did not dip down into the pelvis; the walls were everywhere thick and strong. At this stage of the operation the patient's condition seemed threatening imminent death; pulse 140, and exceedingly feeble. The ether was withdrawn and was not used again; stimulants were given hypodermically. The thickness of the cyst-walls and the extensive adhesions rendered the case one well adapted to treatment by drainage. It was decided not to remove the cyst. Its interior was thoroughly cleaned, a glass drainage-tube was introduced, and the walls of the abdomen and cyst were approximated around it, the sutures being carried into the cyst-wall but not through it. The patient rallied well, and there was no ether vomiting; for several days the discharge through the tube was of a purulent fluid similar to portions of that removed during the operation; its character then changed to that of ordinary pus. The cavity of the cyst was daily emptied of about two ounces of fluid, and *phénol sodique* was injected in the same quantity. The abdomen was covered with a compress and binder to keep the inner cyst-walls approximated and to encourage absorption of the exuded lymph. The area of dullness diminished rapidly from day to day, and the discharge diminished with surprising rapidity. At the end of two weeks a shorter drainage-tube was substituted, and at the end of three weeks a piece of rubber tubing about three inches in length was introduced in lieu of the glass tube. The wound was entirely healed by the end of the fourth week. Examination showed a small flattened mass, two inches by an inch, underlying the abdominal wall and adherent to it. The patient's appetite became ravenous a few days after the operation, and she was fed liberally. The recovery of the patient was now complete, and the speaker felt confident the cyst cavity was so effectually obliterated that it could not refill. Did the rapidity of the shrinkage and disappearance of the cyst indicate that it was not an ovarian tumor? He answered in the negative. It was not an extra- nor an intra-peritoneal abscess, for abscesses did not contain such septa nor such fluid. The character of the contents and septa distinguished this case from two cases of Tait's, in which he ascribed the tumors to distension and suppuration of a sacculated urachus. In making the incision the peritonæum external to the cyst was recognized. In his own mind there was no doubt as to the ovarian origin of the tumor. A specimen of the fluid was examined microscopically by Dr. F. A. Packard, who reported as follows: "I found it to be composed of numerous fatty degenerated epithelial cells, leucocytes, and granular material, entangled in a dense mesh-work of fine homogeneous, fibrin-like fibers. There appeared to be no definite arrangement or other evidence of an organized tissue. The general appearance was that of a tissue that had undergone complete fatty degeneration. I unfortunately ruptured the small cyst before I could collect the contents for examination."

Dr. R. P. Harris remarked that the cyst contents consisted chiefly of a thin greenish fluid of a puriform character in which were found masses of cell structure, some of them as large as a fist, on the surface of which were in some instances still to be seen small translucent cysts containing a yellowish fluid; there was also noticed during the emptying process an escape of fluid from cells which had preserved their integrity, and which resembled to the eye what was often seen in tapping during ovariotomy for multilocular tumors. His impression during the operation was that the tumor was ovarian. The emaciated state of the woman, her rapid pulse, and the strong adhesions of the cyst-wall to the abdominal parieties and viscera, satisfied him that any attempt to remove the cyst would cause the patient to die either upon the table, or of shock in a few hours. Judging from the recoveries after the secondary operation in abdominal pregnancies where it had been found of vital importance not to remove the cyst, a measure the value of which had been discovered by an accident more than ninety years ago in New York city, which occasioned its being left *in situ* and eventuated in saving the woman's life, it was decided to adopt the same plan here. When the abdominal wound was closed in Dr. Parish's patient, the thick cyst-wall could be felt like a large disc with edges more than half an inch thick. As the disintegrating process thinned the cyst-walls, contraction of the disc took place and the center of the abdomen became deeply fissured, until the diameter of the disc was not more than three inches, and it was also much thinner; this change continued until the percussion sound showed no dense structure beneath the abdominal wall. As the ovarian tumor was so altered in structure by peritonitis that its lining surface could no longer secrete ovarian fluid, there was no risk of the formation of a discharging fistula, and the wound rapidly closed as the sac contracted.

Dr. B. F. Baer remarked that he thought Dr. Parish had acted wisely in not attempting to remove the source from which the fluid was secreted. He was led to express this opinion, first and mainly, because the doctor was not sure at the time of operation that there was a tumor, and, secondly, of its very close adhesion, if a tumor existed. He questioned the ovarian origin of the fluid in this case upon the following conditions, as stated by the author: 1. The difficulty of diagnosis before operation. 2. The character of the fluid; absence of the ovarian cell especially. 3. The fact that the secretion so readily ceased after the sac had been opened. 4. Because there was such a rapid disappearance of the cyst-wall. It was so well known that the secreting surface of a true ovarian tumor was not destroyed by tapping or drainage, that tapping, and even drainage, had come to be regarded as very bad practice where the tumor could be removed even at considerable risk; free drainage and injecting the tumor had long ago been given up as futile in the cure of ovarian tumors. Then the sac of an ovarian tumor did not soon undergo atrophy and absorption, even if the secreting surface was destroyed. The cases of extra-uterine pregnancy mentioned by Dr. Harris in which the sac disappeared so readily were doubtless of the abdominal variety, and the gestation sac was therefore largely if not entirely adventitious. This was probably the character of the sac in a case in which he (Dr. Baer) had operated some time ago and removed a full-term child which had been dead thirteen months. The fœtus only was removed. A drainage-tube was placed in the sac. The patient recovered, and all remains of the fœtal envelope disappeared. The speaker would admit, however, that the fluid in the case reported was very like the ovarian except in the absence of the ovarian cell, which he regarded as of very great diagnostic value in a doubtful case. He requested the president to express his opinion concerning the absence of the cell in this case.

The President remarked that it would be very difficult to detect the ovarian cell in such a mass of purulent matter; but, if the fluid of the child cysts had been examined, the cell would most probably have been found. He dwelt upon the importance of the investigation of the fluid being made by one familiar with the appearance of the ovarian cells and those resembling them, as without such experience it was difficult to distinguish them. He referred to an obstetric case which Dr. Parish had attended for him four years ago. The woman had suffered from a tumor some years before, which had proved to be a dermoid cyst developed in the posterior wall of the uterus. During its growth it had formed a communication with the bowel, and a great quantity of offensive fluid had escaped in this way. The opening into the bowel had closed, the sac had filled again, the patient had emaciated rapidly, and septicæmia had set in. Aspiration was resorted to, and a quantity of very offensive matter removed, after which the cyst was washed out with a five-per-cent. solution of carbolic acid. This was repeated nine times at intervals, the patient declining any other operation. She had now become so emaciated that every process of bone showed through the skin, and her pallor was extreme. In this condition, with a pulse of 140 and a temperature of 105°, she finally submitted to an operation. Before this was commenced she was told that it was not likely that the tumor could be removed, as from its location in the uterine wall and its former communication with the bowel it would probably be found firmly adherent to the surrounding parts. He therefore proposed opening the abdomen, and, if the tumor was found as he apprehended, stitching the edges of the cyst to the lips of the abdominal incision, inserting a large drainage-tube, and closing the wound. This was done, and, although the case had been so unpromising, she made a good recovery, while the cyst gradually contracted and finally disappeared; but there still remained a fistulous tract, where the tube had been inserted, which occasionally discharged matter. She became pregnant about three years after the operation and was delivered by Dr. Parish, who informed him that she had an easy labor.

Dr. Joseph Price had no doubt of Dr. Parish's case being one of ovarian cyst. He had seen the patient and had recommended an operation.

Dr. Parish remarked that the walls of the cyst were largely composed of adventitious material, the result of inflammatory processes breaking up the original substance, and this in part explained the rapid cure.

NEW YORK SURGICAL SOCIETY.

Meeting of May 11, 1887.

The President, Dr. Charles McBurney, in the Chair.

Hernia of the Right Ovary; Successful Removal of the Gland.—The President exhibited a specimen, and related the following history: The patient, aged twenty-eight, stated that she had suffered with a right inguinal hernia since the age of twelve, for which she had worn a truss. The tumor had always been reducible, although at times with some difficulty. He had examined her for the first time on May 5th, when he found a tumor occupying the right labium; it was semi-fluctuating and painful on pressure, and gave no impulse on coughing. From its upper portion a rounded cord, resembling the spermatic cord in the male, could be traced upward to the internal ring. An attempt to reduce the tumor caused severe pain in the head, and nausea. The diagnosis of hernia of the right ovary was made, and two days later the speaker cut down upon the mass and found a hernial sac, which was dissected out and laid open. The appearances presented were those of ordinary congenital hernia; there was a persistent pouch of peritonæum, but no intestine could be found. On its posterior wall at the lower end was a mass half an inch thick covered anteriorly with thickened peritonæum. At the lowest portion of the tumor there was a quantity of fluid, in which floated a collapsed sac; at its upper portion there was a distinct constriction which admitted a fine probe, while above this point there was an ordinary hernial tract. The mass in the posterior wall of the sac was submitted to Dr. Frank Ferguson, the curator of St. Luke's Hospital, for microscopical examination, who found in it ovarian stroma. The sac was ligated with strong catgut at the level of the internal ring and was excised, and the patient made a good recovery. The speaker added that he had never before had an opportunity to examine a case of hernia of the ovary. The anatomical relations of the gland were the same as those of the testis in a case of congenital hernia.

Right Inguinal Hernia, with Non-descent of the Testis; Castration.—The President also showed a specimen which he had removed from a patient whose history was as follows: A boy, aged seventeen, had never seen his right testicle until three months before, when it had appeared in the inguinal canal, and had given rise to severe pain. Shortly after a mass of intestine had suddenly come down while the boy was at school in the country, and had been reduced with some difficulty. This accident had occurred on several subsequent occasions, the gut escaping beneath the truss which he wore. The last time it had been supposed to be strangulated, and an operation had been advised. On Sunday, May 9th, the speaker had cut down upon the testicle, which was very small, and removed it with the sac in the usual way. The intestine was not seen.

Dr. Briddon remarked that he had seen but one case of hernia of the ovary, the patient being a prostitute. The vagina measured only an inch and a half or two inches in depth, and no uterus could be felt. The external genitals and the mammæ were well developed. On either side the canal of Nuck contained a small, insensitive body, which could be reduced into the abdominal cavity. The woman subsequently married, and her husband probably never knew that she was not perfectly formed.

Dr. Yale asked if this case might not have been one of hypospadias.

Dr. Briddon replied that the breasts were large and the external genitals normal, although not prominent, while the woman presented decided feminine characteristics.

The President said, in reply to a question by Dr. Briddon, that there had been in the first case the same condition as existed in congenital hernia, the peritoneal pouch remaining open, while the ovary had descended behind the pouch. It was impossible to say how long the ovary had been displaced; the hernia had existed for over fourteen years.

Obstinate Hæmorrhage after Amygdalotomy; Recovery after Ligation of the Common Carotid Artery and Infusion of Salt Solution.—Dr. Sands narrated the history of a case of secondary hæmorrhage after removal of the tonsils. Thirteen days before he had been called in consultation by Dr. Speir, of Brooklyn, who had requested him to bring his apparatus for transfusion. He arrived at the patient's residence at three in the afternoon, and found a man, twenty-four years of age, who had on the previous day visited Dr. Fuller's office at 4 p. m., and had had both tonsils excised with a tonsil-guillotine. The hæmorrhage following the operation was insignificant. The patient returned home, dined, and in the evening went to a wedding, at which he was to act as an usher. While there he began to bleed, and was obliged to return home. The hæmorrhage continued all night, in spite of efforts made to control it by pressure with the fingers, large dressing-forceps, and styptic cotton. The bleeding was confined to the right side. The following morning Dr. Speir was called. He found the patient greatly prostrated, and still bleeding. He tied the right common carotid artery, but the hæmorrhage continued, and transfusion had been thought of as a last resort. When the speaker saw the patient the latter was extremely weak, and could scarcely speak, and his pulse was small and rapid, at times almost imperceptible. Blood was slowly oozing from his mouth. On examining his throat, no bleeding point could be detected, but only oozing from the right tonsil, which ceased after the clots had been scraped away with the finger, perhaps because a better surface was thus afforded for the deposit of coagulum. The speaker opened a vein in the arm and introduced a pint of saline solution in the course of four or five minutes, using a Cohn's apparatus, with which any entrance of air was prevented. During the operation the volume and tension of the pulse improved considerably. The speaker had been informed that the patient's subsequent progress had been favorable, and that he was now convalescent. How far the infusion had contributed to this fortunate result the speaker was unable to say, but it might have assisted the recovery by increasing the amount of liquid in the blood-vessels. It had been learned after the removal of the tonsils that the patient belonged to a family of bleeders, and that he had once before bled profusely, after the removal of a tooth. The speaker did not believe that this explanation was satisfactory in the present instance, for, if the theory of the hæmorrhagic diathesis had been correct, there should have been bleeding from both tonsils, and also from the wound made during ligature of the carotid. The hæmorrhage was probably due to the division of a large tonsilar artery. The speaker added that this was the only case of the kind he had seen. He had seen very few "bleeders," among whom had been an orderly in Roosevelt Hospital, who bled for several days after the removal of a tooth, but eventually recovered. A lady, whom he had seen in consultation several years before, had lost a large quantity of blood after having a tooth extracted; pressure was of no avail in this instance.

Dr. Briddon said that he had observed a fatal case of hæmorrhage in an infant under one year of age, after lancing of the gums, in which the child was not a bleeder. He had seen two bleeders in whom hæmorrhage continued for five or six days, but was not fatal; one patient had purpura rheumatica. He had once been called to attend a young man whose inflamed tonsil had been incised three days before. The patient was much prostrated. On examination, a small stream of blood was seen spurting from the incision. The speaker inserted into the cavity the bulbous end of a silver tube, in which were a number of small perforations, and injected through it a solution of persulphate of iron, when the bleeding ceased at once. In the cases of the bleeders, the speaker had tried every remedy in vain; in one instance the patient had a wound in the lip, and on passing a couple of stitches through the latter the hæmorrhage from the needle-punctures was equally troublesome. He believed that Dr. Sands was correct in denying the influence of the hæmorrhagic diathesis in his case, because, if this had been the cause of the bleeding, the patient would also have bled from the wound made in ligating the artery.

The President thought that the anatomical relations of the divided vessels often exercised a more important influence in cases of persistent hæmorrhage than heredity; arteries were sometimes so situated that they could not retract, and hence coagulation was prevented. As an illustration of this, he cited the case of a gentleman who had suffered for twelve years with "hæmoptysis," and had been all over Europe, frequently having his chest examined under the impression that he had phthisis. No evidences of pulmonary trouble could be discovered, and, as none of his physicians had ever chanced to see him when he was bleeding, the cause of the hæmorrhage could not be discovered. The speaker happened to examine him while he was spitting blood, and found that it came from the bottom of a tooth-cavity. It was cured by removing the tooth. The patient was not a bleeder. The speaker said that he had seen a case of hæmorrhage after amygdalotomy in a medical student whose tonsils had been removed with a scalpel at the Demilt Dispensary. The operation was performed at 1 p. m. At four, when the speaker saw him, he was lying on the floor and was very weak. Persulphate of iron and other remedies were tried in vain. His throat was examined under a good light and a small spouting vessel was seen on the right side; the hæmorrhage was readily controlled by pressure with a sponge on a long handle. In many cases of epistaxis, the speaker added, we could on careful examination find a single bleeding point in one nostril, generally on the septum and near the external orifice, where the mucous membrane was very thin, and could stop the hæmorrhage by direct pressure.

Dr. Rushmore cited the case of a patient in South Brooklyn who belonged to a family of bleeders. He had bled for three days from a prick of the thumb; the speaker checked the hæmorrhage by elevating the hand on a splint.

Fracture and Dislocation of the Astragalus.—Dr. L. A. Stimson exhibited a portion of an astragalus, and read the history of the case. [See p. 594.]

Dr. Sands said that he had a specimen similar to the one presented. It had been obtained from a patient whom he had seen in consultation in Tarrytown, with a fracture and dislocation of the astragalus inward. The fracture was nearly vertical in direction, and was situated just in front of the ankle joint. The skin over the upper dislocated fragment greatly stretched. He cut down directly upon the bone, and easily removed it. The patient recovered, and walked well afterward, but had slight shortening and stiffness of the ankle. The speaker thought that there was no use in wasting time by trying to effect reduction, because the conditions were so unfavorable; it was better to excise early, especially since the results obtained by modern antiseptic methods were so good. The broken bone acted as a foreign body, and would, if allowed to remain, do injury to the soft parts.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

The Medical Annual and Practitioner's Index; a Work of Reference for Medical Practitioners. Edited by Percy Wilde, M. D., 1887. Bristol: John Wright & Co. Pp. xvi–550.

The Physician's Dose and Symptom Book: containing the Doses and Uses of all the Principal Articles of the Materia Medica and Officinal Preparations arranged in Alphabetical Order; also Tables of Weights and Measures, Rules to Proportion the Doses of Medicine, Common Abbreviations used in Writing Prescriptions, Alphabetical List of Materia Medica, Preparations and Modes of Administration, List of Incompatibles, Hints on Prescription Writing, Table of Poisons and Antidotes, Hints on Treatment, Table of Symptoms. By Joseph H. Wythe, M. D., Professor of Histology and Microscopy, Cooper Medical College, San Francisco, etc. Seventeenth Edition, completely rewritten and enlarged. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. viii–5 to 226.

Practical Lessons in Nursing, Maternity, Infancy, Childhood, Hygiene of Pregnancy; Nursing and Weaning of Infants; the Care of Children in Health and Disease. Adapted especially to the Use of Mothers or those intrusted with the bringing up of Infants and Children, and Training Schools for Nurses, as an Aid to the Teaching of the Nursing of Women and Children. By John M. Keating, M. D., Visiting Obstetrician and Lecturer on the Diseases of Women and Children, Philadelphia Hospital, etc. Philadelphia: J. B. Lippincott Company, 1887. Pp. 12–13 to 221. [Price, $1.]

An Introduction to Practical Bacteriology. A Guide for Students and General Practitioners. By Thomas E. Satterthwaite, M. D., Professor of Pathology and General Medicine in the New York Post-graduate Medical School and Hospital. Detroit: George S. Davis, 1887. [The Physician's Leisure Library.] Pp. 85.

New Inventions, etc.

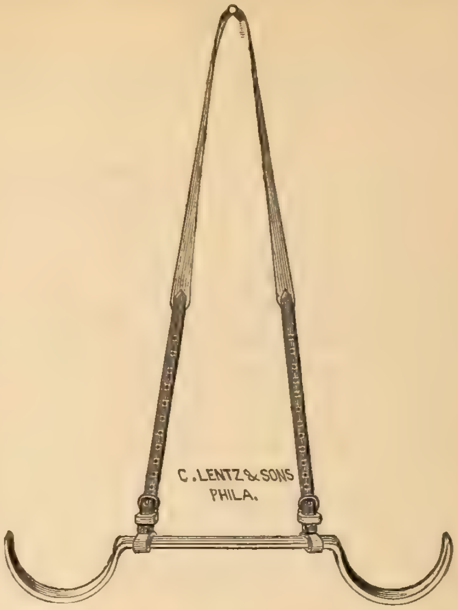
A NEW APPARATUS FOR MAINTAINING THE LITHOTOMY POSTURE.

At a recent meeting of the Philadelphia County Medical Society, Dr. Thomas B. McBride showed an apparatus which he had designed for supporting the limbs and maintaining the lithotomy posture.

It consists of a piece of hard, elastic wood, preferably ash or hickory, ⅜ of an inch thick, 1 inch wide, 36 inches long, bent at each end in a semicircle of 6 inches diameter, or a semi-circumference of 10½ inches, thus leaving a shaft of 15 inches between the semicircles, and making the finished length of the instrument 27 inches (6+15+6).

To the shaft, 2 inches from each end, a buckle is immovably fastened by means of leather. A band of webbing, finished at each extremity with a leather strap, the whole 50 inches long, completes the device. In using the apparatus the thighs are flexed on the abdomen and put into the semicircles, and the band is placed around the neck and fastened to the buckles.

Dr. McBride said: "The advantages are apparent. Its cheapness places it within the reach of every one. The thoroughness with which it does its work, keeping the patient immovably in the lithotomy position, and maintaining the same relative position of the parts; the fact that it does not interfere with the circulation; the strength, lightness, and remarkable simplicity, will, I think, render it a valuable acquisition to the surgeon and gynæcologist."



Miscellany.

The Massachusetts Medical Society will hold its one hundred and sixth annual meeting in Huntington Hall, Boston, on Tuesday and Wednesday, June 7th and 8th. The following papers are announced: "Tumors of the Bladder," by Dr. George W. Davis, of Holyoke; "Cases of Burns, with special reference to Complications, Sequelæ, and Treatment," by Dr. James E. Cleaves, of Medford; "Laparotomy for Pus in the Abdominal Cavity and for Peritonitis," by Dr. John C. Irish, of Lowell; "Fracture of the Spine: its Immediate Treatment by Rectification of the Deformity and Fixation by the Plaster-of-Paris Jacket," by Dr. Herbert L. Burrell, of Boston; "Observations on the Puerperal Pelvic Ligaments," by Dr. Stephen W. Driver, of Cambridge; "The Relation of Tea-drinking to Disorders of the Nervous System," by Dr. William N. Bullard, of Boston; "Pulmonary Tuberculosis as a Sequel to Ordinary Pleurisy with Effusion," by Dr. Herman F. Vickery, of Boston; "The Surgical Treatment of Chronic Empyema," by Dr. Maurice H. Richardson, of Boston; "A Contribution to the Study of the Ætiology of the Summer Diarrhœa of Infants," by Dr. Henry C. Haven, of Boston; "Sepsis and Antisepsis in Summer Diarrhœa," by Dr. S. Allen Potter, of Roxbury; "Training Nurses," by Dr. Alfred Worcester, of Waltham; "The Value of Public Health Measures to the State," by Dr. Samuel W. Abbott, of Wakefield; and the Annual Discourse, by Dr. George J. Townsend, of South Natick. The annual dinner will be served in the Skating Rink, at 1 p. m. on Wednesday.

The American Climatological Association will hold its fourth annual meeting in the Hall of the new Physical Laboratory of the Johns Hopkins University, Baltimore, on Tuesday and Wednesday, May 31st and June 1st. The programme includes the following: "The Prophylactic Treatment of those who inherit a Predisposition to Phthisis" (the President's Address), by Dr. Frank Donaldson, Sr., of Baltimore; "The Philosophy of the Climatic Treatment of Diseases of the Chest," by Dr. James R. Leaming, of New York; "An Analysis of Sixty Cases of Asthma, with the Results of Treatment," by Dr. F. H. Bosworth, of New York; "The Influence of Sea Air on Syphilitic Phthisis," by Dr. R. G. Curtin, of Philadelphia; "Diseased Conditions for which Sea Air is of Doubtful Benefit," by Dr. Boardman Reed, of Atlantic City, N. J.; "An Invalid's Day in Colorado Springs," by Dr. S. E. Solly, of Colorado

Springs; "The Causes of Cardiac Failure at Great Altitudes," by Dr. Frank Donaldson, Jr., of Baltimore; "Some Hospital Cases of Phthisis; Marked Improvement under General Treatment, with special reference to Alimentation," by Dr. F. C. Shattuck, of Boston; "Discussion of Dr. Shattuck's Paper, introducing the subject of Gaseous Injections in connection with Diet," by Dr. E. T. Bruen, of Philadelphia; "The Local Treatment of Diseases of the Respiratory Organs," by Dr. B. F. Westbrook, of Brooklyn; "The Treatment of the Final Stage of Phthisis," by Dr. John B. Musser, of Philadelphia; "Observations upon the Sanitary Advantages of Tide-Water, Va., including Virginia Beach as a Winter Health Resort," by Dr. A. Y. P. Garnett, of Washington; "Evergreen Forests as a Therapeutic Agent in Pulmonary Phthisis," by Dr. A. L. Loomis, of New York; "Environment in its Relation to the Progress of Bacterial Invasion of Tuberculosis," by Dr. E. L. Trudeau, of Saranac Lake, N. Y.; "The Climate of the Sub-peninsula Pinellas, Florida," by Dr. W. C. Van Bibber, of Baltimore; "The Climate of St. Moritz, Upper Engadine, Switzerland," by Dr. Walter Platt, of Baltimore; "The Climate of Southern California," by Dr. H. S. Orme, of Los Angeles, Cal.; "Report of the Committee on Mineral Springs," by Dr. Clarence C. Rice, of New York; "The Classification of American Mineral Waters," by Dr. A. C. Peale, of Washington; "St. Augustine as a Winter Health Resort," by Dr. F. F. Smith, of St. Augustine, Fla.; "Pass Christian, Mississippi, as a Health Resort," by Dr. Charles Le Roux, of Pass Christian. On Tuesday there will be a reception by the president, Dr. Donaldson, from 5 to 8 P. M. On Wednesday there will be a reception by Dr. Van Bibber, from 1 to 3 P. M., and the annual dinner will be served that evening.

Dilatation in the Treatment of Hæmorrhoids.—Dr. E. L. Macomb Bristol writes to us that he has employed M. Verneuil's treatment, as described recently by our Paris correspondent, and with much success.

Morel on the Treatment of Phthisis with Gaseous Enemata.—Messrs. James W. Queen & Co., of Philadelphia, who announce that they are prepared to furnish Dr. V. Morel's apparatus for the application of M. Bergeon's method of treatment, have published a translation of Dr. Morel's *brochure* on the subject, from which we make the following extract:

"This operation demands a certain amount of experience and several precautions. It is necessary that the patient should be as much disrobed as possible, or at least not to wear any dress, corset, or belt that would compress the abdomen, which necessarily swells a little on the entrance of the gas into the large intestine. It is preferable he should lie on his back. When an injection is made into the patient for the first time, it is well to observe with the hand the resistance which is made to the entrance of the gas into the intestine; to go slowly, or to stop a little if the resistance is too great, which announces that the intestine is filled, and to wait till the absorption takes place, and then commence again, and so on. It is also necessary to note the sensations of the patient; to stop quickly if he is attacked with colic or has an inclination to stool. In some cases this is so imperative that it has to be obeyed, and in this case, when the intestine has been emptied, the injection is recommenced. It is not necessary to take evacuants before the injection. In other cases, where the extent of the pulmonary lesions is very great, and in consequence the gaseous elimination is made but slowly, it is necessary to proceed very slowly on account of the sensation of fullness in the chest and abdomen. It is necessary to take fifteen to twenty minutes to administer the first injections. It is necessary that the first operation at least should be made by the physician himself, in order that he may take note of the susceptibility of the patient to the action of the gas, the rapidity with which the absorption and elimination take place with him, and the manner in which the intestine tolerates the gaseous mixture. It should not be confided to the patient nor his attendants until the physician is able to give them precise instructions. He should not give over these injections into the hands of the patient any more than he would the administration of hypodermic injections of morphine or other substances of the same kind. In one case, as in the other, grave accidents might result if account were not taken from time to time of the conditions which affect or result from the injections, conditions which vary necessarily in one patient and another, and for which general rules can not be given.

"*En résumé*, the preparation of the gas is easy, with but few minutiæ, but the injection should not be practiced except by a person who has had experience. The apparatus described is that employed when the gaseous medicament is obtained from mineral waters and solutions. When the medicament is a powder like iodoform, or a volatile substance like carbon disulphide, or an essential oil such as eucalyptol,* the wash-bottle, etc., is replaced by a glass tube . . .; the substance is placed between two tampons of cotton; the ends of the tube are closed with rubber stoppers, with small glass tubes placed in the perforations. One of these tubes is attached to the red rubber tubing of the bulb, and the other to the tube ending with the rectal nozzle. When the bulb is pressed, the carbonic-acid gas traversing the tube becomes sufficiently charged with the substance to be injected. The injection is far more easily borne when the gas has been washed through liquid also, and in special cases it can be so arranged. The fitting being placed in the wash-bottle containing ordinary water, it is attached on the one side to the bulb and on the other by a rubber tube to a tube containing the medicating substance. In this manner the gas passes through the water before reaching the glass tube, and is so freed of any impurities. The gas is then better tolerated by the intestine. The rectal injections should be made three or four hours after meals or immediately before them. If taken too soon after meals, they are likely to produce vomiting, if nothing worse. For the first injection it is well to use only part of the volume of carbonic acid in the gas-bag—say about three litres. After three or four operations, an injection of six litres is readily tolerated, morning and evening. The operation should be made slowly; it is necessary to take twenty to thirty minutes, and perhaps longer."

Asthma treated by Bergeon's Method.—At a recent meeting of the Philadelphia County Medical Society, Dr. S. Solis-Cohen said:

"By request of the chairman of the directors, I will briefly report a case of asthma in which immediate relief followed the injection into the intestine of the mixture of carbon dioxide and hydrogen sulphide, as recommended by Bergeon. Having noticed in Morel's paper reports of two cases, in which success attended the experiment, in one of the Parisian hospitals, and a case presenting itself which offered a fair test, I determined to make the trial.

"The patient is a stout married woman, about fifty years of age, of somewhat neurotic temperament, who has for some years been subject to attacks of spasmodic asthma, ordinarily manifesting recurrent paroxysms, lasting ten or twelve days. In the intervals there is neither bronchitis nor dyspnœa. There is no heart lesion. I have seen her in previous attacks, which have been relieved by methods with which we are all familiar. In one particularly obstinate seizure, by advice of Dr. J. Solis-Cohen, the patient was sent to the gas-works, and was benefited by inhaling the carbureted vapors there produced. I saw her on the second or third day of the attack, and proposed the injections, but could not obtain consent. Not wishing to complicate the therapeutics too much, in case she should later accede to the proposal, I simply prescribed, as a palliative for the dyspnœa under which she labored between the paroxysms, quebracho, in twenty-drop doses of the fluid extract, repeated hourly or half-hourly, according to indications. This, of course, gave great relief, but a paroxysm recurring in the evening, the patient consented to try the injection. Almost immediate relief was experienced. Some dyspnœa persisted, but there was no further paroxysm, and the dyspnœa gradually lessened, finally disappearing within thirty-six hours. After six injections, the latter ones being prophylactic rather than therapeutic, the patient professed herself feeling better than for years, and auscultation revealed only normal breath sounds.

"This is, of course, but a single case; yet, having a standard of comparison in previous attacks in the same individual, I can, so far as one case is worth anything, confirm Morel's claim that the rectal injection of carbon dioxide and hydrogen sulphide is beneficial in asthma. Which of the two gases is the active agent, and whether it would be equally efficacious by inhalation, are questions which I do not now desire to discuss."

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* "These are the doses employed most frequently: One teaspoonful of iodoform; twenty to twenty-five drops of carbon disulphide or of eucalyptol highly rectified, for each injection. The cotton tampons need not be renewed."

A Proposed Method of Treating Hydrophobia.—Dr. Charles A. Dachsel, of Memphis, Tenn., writes to us suggesting the introduction of a small tube into the stomach, the tube being so small that it can be retained. Through this tube he would inject whisky and water, and at the same time use small hypodermic injections of atropine. The whisky he would use for the purpose of relaxing the system and neutralizing the poison.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality" for the month of April, the whole number of deaths was 450, including 4 from cholera infantum, 31 from croup and diphtheria, 2 from cerebro-spinal meningitis, 1 from diarrhœa, 2 from dysentery, 1 from erysipelas, 6 from typhoid fever, 1 from remittent fever, 1 from whooping-cough, 3 from pyæmia, 2 from septicæmia, and 1 from scarlet fever.

The Health of Boston.—During the week ending Saturday, May 21st, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 23 cases and 7 deaths; scarlet fever, 22 cases and 4 deaths; typhoid fever, 31 cases and 3 deaths; measles, 137 cases and 3 deaths. There were also 26 deaths from consumption, 19 from pneumonia, 1 from whooping-cough, 9 from heart disease, 6 from bronchitis, and 8 from marasmus. The total number of deaths was 182, against 175 in the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending May 19th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending April 30th corresponded to an annual rate of 20·6 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Derby, viz., 10·5, and the highest in Cardiff, viz., 35·4 in a thousand.

London.—One thousand four hundred and eighty-one deaths were registered during the week ending April 30th, including 102 from measles, 12 from scarlet fever, 16 from diphtheria, 59 from whooping-cough, 4 from enteric fever, and 19 from diarrhœa and dysentery. There were 338 deaths from diseases of the respiratory organs. Different forms of violence caused 53 deaths, and 7 suicides were registered. The deaths from all causes corresponded to an annual rate of 18·3 in a thousand. In greater London, 1,826 deaths were registered, corresponding to an annual rate of 17·6 in a thousand of the population. In the "outer ring" 16 deaths from measles and 8 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending April 30th, in the sixteen principal town districts of Ireland, was 24·7 in a thousand of the population. The lowest rate was recorded in Kilkenny, viz., 0, and the highest in Newry, viz., 52·7 in a thousand.

Dublin.—Two hundred and twelve deaths were registered during the week ending April 30th, including 11 from measles, 1 from scarlet fever, 4 from whooping-cough, 2 from enteric fever, 2 from diphtheria, 1 from cerebro-spinal fever, and 3 from diarrhœa. Diseases of the respiratory organs caused 41 deaths. In thirty-four instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 31·3 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending April 30th was 22·5 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 9·7, and the highest in Paisley, viz., 26·5 in a thousand. The aggregate number of deaths registered from all causes was 563, including 27 from measles, 8 from scarlet fever, 6 from diphtheria, 36 from whooping-cough, and 8 from diarrhœa.

There were 27,524 deaths registered in these towns during the year 1886, being in the proportion of 21·4 in each thousand of the estimated population.

The number of deaths registered throughout Scotland during the year 1886 was 73,622, which is in the proportion of 18·6 in every thousand of the estimated population, the lowest rate yet recorded. The average number of daily deaths was greatest in March, being then 252; the lowest in October, 169.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending April 23d, corresponded to an annual rate of 24·3 in a thousand. The lowest rate was recorded in Plauen, viz., 12·6, and the highest in Augsburg, viz., 37·1 in a thousand.

Calcutta.—Seventy-seven deaths from cholera were registered during the month of January, 1887, against 290 in the preceding month. During the month of February there were 83 deaths from cholera.

Greece—Athens.—The United States consul, under date of April 22d, states that "the strict quarantine enforced to this date against all arrivals from Sicily (viz., eleven days) is now reduced to a simple medical visitation, except in regard to arrivals from Catania, which are now subject to a quarantine of five days."

Buenos Ayres.—Two thousand three hundred and thirty deaths were registered during the two months ending February 28, 1887, including 576 from cholera, 19 from small-pox, 61 from enteric fever, 20 from scarlet fever, and 53 from diphtheria. It is reported that cholera disappeared in the month of March.

Havana.—Eight deaths from yellow fever and two from small-pox were registered during the week ending May 5, 1887.

The following is a translation of an article which appeared in "El Pueblo," Havana, May 10, 1887. The article is reprinted to show that the Havana public are fully alive to the necessities of the time. The rumor has not been verified:

"A melancholy rumor is in circulation, which, if true, must cause alarm throughout the island.

"It appears that there have been six cases of cholera in a suburb not very remote from the city, and that the terrible disease is communicating itself to others.

"We earnestly call the attention of the board of health to this grave report, which we quote with reserves."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Guayaquil	April 15.	35,000	72	..	6	8	....	25	....	....
Guayaquil	April 21.	35,000	38	.	4	5	....	14	...	....
Warsaw..........	April 23.	439,174	228	..	....	5	....	....	....	....
Paris	April 23.	2,260,045	1,209	..	....	10	....	27	8	48
Reims	April 30.	97,903	46	..	....	2	....	1	1	....
Trieste..........	April 23.	150,157	78	..	....	1	....	....	2	7
Edinburgh.......	April 30.	258,629	100	..	....	....	....	...	4	....
Glasgow	April 30.	545,678	250	..	....	....	...	....	1	4
Belfast..........	April 30.	224,422	85	..	....	....	....	2	....	....
Copenhagen......	April 26.	289,000	126	..	....	....	...	....	....	5
Gibraltar.........	April 24.	23,631	12	..	....	....	....	....	....	2
Palermo	April 30.	250,000	109	..	....	....	....	5	7	5
Amsterdam	April 30.	378,686	136	..	....	...	2	....	1	3
Leipsic...........	April 30.	170,000	67	..	....	....	....	....	2	1
Mayence.........	April 23.	65,701	28	..	....	....	....	....	2	....
Sagua............	April 29.	15,605	12	..	....	....	....	1	1	....
Toronto..........	May 7.	120,000	33	..	....	...	....	....	....	3

UNITED STATES.

Pensacola, Fla.—Quarantine was opened on the 15th day of May, and will continue until the 15th day of November, 1887. No vessel which may have been between those dates at ports or places where yellow fever or other malignant disease has actually appeared shall be permitted to discharge ballast or cargo or load cargo in the Bay of Pensacola; and all other vessels arriving in said bay between said dates shall, immediately on crossing the bar, proceed to the quarantine station to be inspected, and, if deemed necessary by the quarantine physician, discharge ballast or cargo, and be submitted to a cleansing and disinfecting process.

Original Communications.

OBSERVATIONS ON THE USE OF OIL OF WINTERGREEN IN THE TREATMENT OF GONORRHŒAL RHEUMATISM.*

By R. W. TAYLOR, M. D.,
SURGEON TO CHARITY HOSPITAL.

In the latter part of September, 1886, a young man twenty-four years of age, of excellent health and fair habits, who had about a week previously been declared cured of an attack of gonorrhœa of moderate severity and of three weeks' duration, came to me in a very anxious frame of mind. Disregarding my injunctions, he had precociously indulged in much wine and venery, and as a result he had a slight muco-purulent discharge, and pain and swelling in both ankles, at the point of insertion of the left tendo Achillis, and in the right knee. He informed me that when nineteen years of age he had had gonorrhœa which had been complicated by rheumatism which had lasted five months, and which he thought had been finally cured by a sojourn at Vichy. This experience, together with the fact that his whole time was then occupied with large pecuniary interests which demanded constant attention, caused him great uneasiness and apprehension. I immediately put him at perfect rest, made suitable applications to the joints, administered a brisk mercurial cathartic, and ordered him to take salicylate of sodium and acetate of potassium in full doses. I was satisfied in a week that he was not benefited in the least by this alkaline and salicylate treatment. He averred, and I think justly, that his urethra was more inflamed and the discharge more copious than before taking it, and that his rheumatic pains were fully as severe. It then occurred to me that my friend, Dr. F. P. Kinnicutt,† had obtained better results from the oil of wintergreen in acute rheumatism than from the more fixed salicylates, and without any of the toxic and gastric disturbances incident to the latter. I therefore ordered the oil of wintergreen in capsule form in ten-drop doses four times a day. The result was that in two days the pain in the joints was much less and the condition of the urethra much improved. The dose was increased to twenty drops three times a day, with still great benefit in both directions. Then four doses daily were given. The result was most gratifying. Within a week the urethral discharge and discomfort had ceased, and in fourteen days there was only slight stiffness and uneasiness in the joints, which did not prevent moderate locomotion with the aid of a cane. The wintergreen oil was continued for a fortnight longer in a reduced dose, and a perfect cure was made.

I was so impressed by the auspicious results in this case, both in the curative power of the remedy for the rheumatism and in its seeming anti-blennorrhagic action, that I resolved to try it in my wards at Charity Hospital. The observations which follow were made under my direction by my excellent house surgeons, Dr. Baner, Dr. Schlierback, Dr. Bosch, and Dr. Gilley. In prosecuting these studies I have not allowed myself nor my assistants to be in any way influenced by enthusiasm for a new remedy in a disease which is proverbial for its rebelliousness to the most varied agents and methods of treatment. I have urged those engaged with me to state facts just as they presented themselves, to record a failure or partial failure as quickly as a success, and to extenuate nothing.

These observations extended over a period of more than seven months and included twenty odd patients. Twelve cases only are reported, for in them the therapeutic effects of the agent were put to the test. The others were chronic and almost hopeless cases under any treatment.

Case II.—J. M., aged twenty-two, was admitted into Charity Hospital September 15, 1886; contracted gonorrhœa two months ago. The discharge has now stopped, but patient complains of severe pains in both knees and in the soles of the feet. Iodine was applied to joints and the anti-rheumatic mixture* of the hospital was given internally.

October 1st.—Patient in bed, still suffering. Continue treatment.

18th.—Dr. Taylor ordered ol. gaultheriæ, ten drops three times daily.

29th.—Patient able to walk; very little pain. Continue treatment.

November 12th.—Rapid improvement, scarcely any pain.

During December had fugitive pains at times, and was discharged cured January 2, 1887.

Résumé.—Rheumatism resisted ordinary remedies in full doses for over a month. Immediate relief from ol. gaultheriæ, and thorough cure in ten weeks. I was convinced that this man was, as so many hospital patients are, particularly during the cold weather, a malingerer during the last six weeks of his stay in the hospital.

Case III.—B. S., a waiter, aged twenty-one, was admitted October 9, 1886. Three months previously he had contracted gonorrhœa, which had stopped temporarily in two months. Coincidently with the reappearance of the discharge his left ankle and knee, both feet, left hip, and right shoulder became swollen and painful. Blisters, with alkaline treatment, having failed to benefit him, on October 18th he was ordered to take of ol. gaultheriæ ten drops three times a day. One week later he was able to walk without support, which had been impossible before, and four days later his pains had entirely stopped, and his joints were normal. He was discharged cured on the 2d of November, seventeen days after the commencement of the wintergreen treatment.

It seemed that in this case previous treatment had been powerless to cure, and that the most prompt and satisfactory results began soon after the new treatment was instituted.

Case IV.—J. B., molder, aged twenty-two, admitted October 12, 1886, had three years ago rheumatism of uncertain origin. Three months ago he contracted gonorrhœa, and six weeks later he was attacked with pains in the soles of the feet and in both heels. Examination on entrance showed slight urethral discharge, tenderness of both ankle joints, and the right one much swollen. Patient was unable to walk without support. Though he complained of pain in the region of the heart, no murmur was discovered, but the action was rapid and irregular. Blisters and alkalies having failed to give relief in thirteen days, and the patient being unable to walk, he was ordered to take ten drops of the oil of wintergreen three times a day, and blisters were reapplied. Twelve days later he was in every way better and able to walk for a short time. He was discharged at his own request November 15th, twenty days after the institution of the new treatment, perfectly cured.

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* Read before the American Association of Genito-urinary Surgeons, at its first annual meeting, at Lakewood, N. J., May 18, 1887.

† "On the Use of the Oil of Wintergreen as an Efficient Salicylate in Acute Rheumatism," the "Medical Record," November 4, 1882.

* ℞ Sodii salicylatis, potassii iodidi, āā gr. xv; vin. colchici sem., gtt. xv; aquæ, ℥ ss. M. This is one dose.

Résumé.—In this case all symptoms began to mend soon after the patient began taking the wintergreen, and gradually ceased in twenty days. The question arises, Did the coincident use of the blisters for a time expedite the result?

Case V.—F. J. M., waiter, aged thirty-six, admitted November 6th; had had several attacks of gonorrhœa of short duration, and one previous attack of gonorrhœal rheumatism. The present attack came on five weeks ago, and two weeks after that his left shoulder became painful and stiff, and afterward his left knee, right ankle, and left wrist were attacked. On examination, a profuse urethral discharge was found, and, in addition, the above-mentioned joints were swollen and painful. He was ordered to take mist. Lafayette, ℥j, and ol. gaultheriæ, gtt. x, *ter in die.*

November 9th.—All the joints were much improved, and only slight pain in right ankle and left knee.

15th.—Much better in general, with slight pain in affected parts.

23d.—Condition the same. Lafayette mixture was discontinued, and an astringent injection ordered. Oil of wintergreen continued.

December 13th.—Discharged cured.

Résumé.—Improvement was noted within a week as to pain and swelling, and a perfect cure was effected in a little over a month. In his first attack he suffered much longer.

Case VI.—J. H., hostler, aged thirty-one, was admitted December 29, 1886, with the following history: During the last seven years has had five attacks of gonorrhœa, and on each occasion, about three weeks later, he began to have pains in the different joints, generally beginning in the ankles. These pains lasted about ten weeks with each attack. He thinks that each succeeding attack has been less severe than its predecessor. With each there was some febrile movement. Present history: About four months ago he was affected with gonorrhœa a few days after intercourse, and three weeks later he experienced pain in the ankles, knees, hips, shoulders, and back. On examination, we found all these parts swollen and painful. Temperature 99·5° F., pulse 80. To take ol. gaultheriæ, gtt. xx, *ter in die.*

January 6, 1887.—The pains in different parts less severe.

12th.—Evident improvement. Continue treatment.

18th.—Has pains only in ankles.

24th.—Rapidly improving; able to walk about the ward with the aid of a cane.

February 10th.—Perfectly well.

Résumé.—A patient in whom all the larger joints were swollen and painful, who has been suffering for rather more than three months, was placed on the use of oil of wintergreen alone, and under its influence and rest was cured in forty-four days, improvement in all respects being noted from the beginning of the treatment. Patient stated that he had never had such relief in previous attacks.

Case VII.—J. H., waiter, aged twenty-two, admitted October 22, 1886, had had three attacks of gonorrhœa, each complicated by rheumatism. Present attack of gonorrhœa began some weeks ago, soon followed by rheumatism. On examination, the ankle, tarsal, and metatarsal joints were found to be swollen and painful. He also complained of difficulty in micturition. Until October 29th he took the anti-rheumatic mixture used in Case I, with no result. Ordered ol. gaultheriæ, gtt. x, *ter in die.*

November 11th.—Rheumatism seemingly cured, and wintergreen stopped.

16th.—Pain in right ankle; renew oil of wintergreen in fifteen drop doses thrice daily.

December 7th.—Rheumatism in all the joints first affected; oil of wintergreen increased to twenty drops.

25th.—Slight improvement.

January 7th.—Walks with ease and comfort.

February 7th.—Discharged at his own request, cured.

This patient also had a stricture, and, as is frequently noted in such cases, improvement seemed also to be in a measure due to the gradual dilatation of the urethra, which was practiced.

Résumé.—It is undoubted that in this case the oil of wintergreen was of much benefit, and that it acted in a twofold manner—first on the general rheumatic condition, secondly on the urethral canal, in a manner comparable to the action of copaiba balsam or sandal-wood oil. In this case its superiority over the salicylates and the iodides in allaying rather than increasing irritation was very manifest. Though rather more than three months were occupied in effecting the cure, this can not be considered a long period, seeing that the condition of the urethra was so bad, and that inflammatory fluctuations took place in it.

Case VIII.—W. B., laborer, aged nineteen years, admitted February 28, 1887, had had gonorrhœa four months, rheumatism complicating it in its sixth week. At his entrance, he was found to have a moderate discharge from the urethra, and pains in the ankles, knees, and elbows. An astringent injection was ordered, and oil of wintergreen, twenty drops, three times a day. Improvement began at once, and the patient was discharged cured on April 13th, having been under treatment less than six weeks. In this case also the wintergreen seemed to have an anti-blennorrhagic effect.

Case IX.—R. W., aged thirty, machinist, was admitted February 23d. Had gonorrhœa and rheumatism six years ago, and now suffers from the same affection and complication, which began in July, 1886. Has slight discharge, and the knee and ankle are slightly swollen and quite painful. The treatment ordered was oil of wintergreen, twenty drops three times a day, and tincture of iodine locally.

March 2d.—Much improved.

April 3d.—Discharged, being able to work, and having only slight stiffness of joints.

Résumé.—In this case much benefit was promptly noted as to the rheumatic trouble and in the cessation of the discharge.

Case X.—J. T., aged twenty-six, laborer, was admitted March 2, 1887, with gonorrhœa of three weeks' duration, and rheumatism of the left hip joint. Oil of wintergreen failed to benefit the patient, and the rheumatic mixture was tried with like result. A Buck's extension apparatus was used, and improvement began at once. On May 15th the patient could walk around the ward with the aid of a cane.

In this case the oil of wintergreen was a failure.

Case XI.—H. C., aged fifty-two, laborer, admitted October 8, 1886, had an attack of rheumatism a year previously, lasting three months. On admission, has his first attack of gonorrhœa, which has existed seven weeks. One week after its appearance he experienced pain in the left hip, then in the left knee, and lastly in the right knee. It now affects only the two knees. An astringent injection was ordered, and oil of wintergreen in twenty-drop doses. There was only slight improvement according to the patient, but I am disposed to think that his cure was protracted by his own want of moral courage. He could not be induced to leave his bed, or to think that he was in any measure improved. Later on he took the anti-rheumatic mixture without any striking result. As warmer weather came on he was induced to leave his bed, and has since gradually but steadily improved. He can now walk with the aid of a cane.

Résumé.—Perhaps the age and previous rheumatic condition of this man contributed to the stubbornness of his blennorrhagic joint affections. This case illustrates strikingly the effect of the mind upon the continuance of the disease. The patient gave up entirely to it, and hence made little progress. It carries with it a suggestion I have observed in many cases—namely, not to let these patients give up to rest too continuously. We find many of them contented to remain in bed indefinitely, and to report very little progress. A moderate amount of locomotion, with the aid of a stick, often benefits them both physiologically and morally. My rule is to insist on moderate and increasing locomotion as soon as the acuteness of the inflammatory symptoms is passing away.

Case XII.—B. P., aged twenty-nine, confectioner, admitted December 8, 1886, had his first gonorrhœa five years ago, complicated by rheumatism of the right ankle and both knees. One month ago he contracted gonorrhœa again. Soon after he experienced sudden jerking pains in his sides above the ilia. These pains spread to the lumbar regions and down the thighs, especially the left to the knee, which became swollen. He has also pains in the neck and in the sole of the right foot. A mild astringent injection was ordered, and, besides, oil of wintergreen, ten drops three times a day.

December 16th.—Not much improved. The dose of the wintergreen increased to twenty drops. Rest in bed.

20th.—Marked amelioration of pain.

This treatment was continued, with gradual improvement, until January 20, 1887, when the patient was discharged, able to resume his duties, though a trifle stiff.

Remarks.—This case was a good example of gonorrhœal rheumatism of the broad fascia, also of the knee and of the fascia of the sole of the foot. Such cases are frequently very obstinate, and in this the action of the oil of wintergreen was very marked.

Besides the foregoing, a number of cases which were of long standing, and in which fibro-plastic and degenerative changes had taken place in the joint structures, were treated in the hospital with this agent with no benefit or result whatever. Then, again, it was tried in those old hybrid cases, in which the patients gave a confused history of chronic rheumatism, of a remotely antecedent syphilis, and of gonorrhœa, in which it is almost impossible to fix upon a definite ætiological cause, and always unsuccessfully. It would be a waste of time to consider these cases at greater length.

An analysis of these cases in tabular form will bring out more clearly the collective results.

Case I, aged twenty-four, recent rheumatism; failure of alkaloids and salicylates, prompt cure by oil of wintergreen.

Case II, aged twenty-two, recent rheumatism; no improvement from salicylates used for a month, immediate relief from wintergreen, cure in ten weeks.

Case III, aged twenty-one, recent rheumatism; failure of blisters and alkalies, immediate relief and prompt cure from wintergreen.

Case IV, aged twenty-two, recent rheumatism; failure of alkalies and blisters, prompt relief from wintergreen.

Case V, aged thirty-six, recent rheumatism; prompt relief from wintergreen.

Case VI, aged thirty-one, recent rheumatism; prompt relief of pain by wintergreen, in marked contrast with four previous attacks.

Case VII, aged twenty-two, recent rheumatism; failure of iodides and salicylates, benefit from oil of wintergreen and gradual dilatation; the former acted also as an anti-blennorrhagic.

Case VIII, aged nineteen, recent rheumatism; prompt relief from wintergreen, which also had anti-blennorrhagic effect.

Case IX, aged thirty, rheumatism of seven months' standing; relief from wintergreen, which also acted as an anti-blennorrhagic.

Case X, aged twenty-six, recent synovitis of hip joint; failure of wintergreen, improvement from rest and extension.

Case XI, aged thirty-two, previous rheumatism; slow and unsatisfactory action of the wintergreen.

Case XII, aged twenty-nine, recent rheumatism of large extent of fasciæ; prompt relief from wintergreen.

In this summary I have applied the term recent rheumatism to cases of about three months' and less duration, since beyond that time they belong, I think, to the category of chronic cases. Out of these twelve cases prompt relief to pain was noted in ten, and a satisfactory result as to ultimate cure was reached in periods averaging from one month to ten weeks. In many instances in hospitals the date of cure can not be determined, for many patients suffering from gonorrhœal rheumatism become more or less malingerers, and, from poverty or lack of moral courage, prefer to remain in the hospital, whereas, if outside, the necessities of life would prompt them to early and energetic effort. Therefore I think that in these cases, though in some the ultimate cure seemed protracted, the showing for the wintergreen treatment is, on the whole, good. An agent which, in such a rebellious and capricious disease, will give relief to pain so uniformly, should, I think, be entitled to consideration.

I do not intend to draw dogmatic conclusions from this not extensive experience, but I am led to the opinion that this agent will be found of most benefit in recent cases, in which the fibrous structures of joints and muscles are involved, and in which there is not a large amount of serous effusion. I have an impression that in cases complicated by hydrarthrosis the agent will be more or less disappointing, and that when used in chronic cases it will not be found to be very reliable, but will take its place in the list of remedies which we use tentatively where others have failed doing more or less temporary good. In most of these cases structural changes have taken place, and these the oil of wintergreen, I think, is powerless to remove. Nor do I think that it will be of much service in relieving and curing that condition of cachexia into which these patients so frequently fall.

I think I may speak somewhat hopefully, even warmly, of the tendency of the drug to allay urethral irritation, which is a great advantage, since there is no doubt that the alkalies, iodides, and salicylates fail to produce a cure for the reason that their irritant action on the bladder and urethra necessitates their discontinuance.

While I have thus prominently brought forward this remedy in the treatment of gonorrhœal rheumatism, I must not be understood as relying upon it, or, indeed, any internal remedy alone, since we frequently have to use cooling lotions, counter-irritants, blisters, actual cautery, massage, immovable dressings, and other means as adjuvants. In many old cases, however, some of these means often effect the cure without the aid of internal medication.

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THE INDICATION FOR QUININE IN PNEUMONIA.

By MARY PUTNAM JACOBI, M. D.

(*Concluded from page 593.*)

I do not propose in this place to review the enormous literature, experimental, critical, and clinical, which exists on the subject of quinine. I wish rather to call attention to one theory of its action which seems to me to have been too much neglected. I refer to the theory advocated by the Neapolitan writer Chirone, in an experimental essay published in the "Gazette hebdomadaire" for 1875.

Chirone proposed to find some method for reconciling two current doctrines concerning quinine, each imposingly supported, yet apparently incompatible with each other. According to one of these doctrines, quinine is a powerful sedative to the heart and nervous system. According to the other opinion, and an extensive clinical experience, quinine is a powerful tonic to both nervous system and heart. It is agreed that these different effects are obtained by means of very different doses, being large in the first case, moderate in the second. Still, it is important to ascertain the precise point at which the tonic effect passes over into the sedative and depressing effect, and the mechanism by which this may be determined. The phenomenon only remotely resembles the contrast which is afforded by minute and average doses of other alkaloids, as morphine.

Experiments on dogs, rabbits, and frogs led Chirone to the following conclusion:

> Quinine increases the diastole of the heart through a direct molecular action on the muscular fiber, in virtue of which this actively lengthens and the cavities it incloses become thereby enlarged. From the increased energy of diastole more blood is aspired to the heart, and, in order to empty itself, the organ is compelled to contract more energetically, and thus the systole is indirectly increased in power. This is the case so long as the dose of quinine is moderate; the total result, therefore, is an increased energy of the circulation with consequent tonic effect.
>
> If the dose of quinine is large, however, the cardiac diastole comes to predominate too much over the systole; more blood is aspired into the heart than can be expelled; the ventricular systole struggles in vain with the load, finally becomes paralyzed by it, and the heart stands arrested in diastole, with its cavities enormously dilated by blood. In the experiments on dogs, where the carotid tension was measured by Fick's manometer, the constant tension began to fall after the injection into the jugular of three doses of quinine of 15 centigrammes each; it soon completely disappeared. In the experiments on the frog the heart was exposed and observed for some time, the diameter of the base measured at the moment of maximum diastole. This, in one experiment, for instance, was 7·2 millimetres. Eight centigrammes of bisulphate were injected under the skin. In three minutes the heart was observed to dilate very energetically, to become very red. In ten minutes the ventricles were arrested in diastole, and their base measured 9·3 millimetres. The auricles were still beating. That this diastole was active and not cadaveric, the author infers from the fact that in thirty minutes the base measured only 8·6 millimetres and retained this size an hour later when quite dead. During this diastolic arrest the heart failed to respond to electricity. But when, in another experiment at the moment of increased diastole, a few drops of a solution of toad venom were injected, the systole grew gradually stronger, gained upon the diastole, until after energetic systolic contractions, in thirty-five minutes, the heart stood arrested in systole.
>
> The toad venom has the property of stimulating the systolic contractions of the heart, and its ability to act upon a heart which is under the influence of quinine proves that this latter drug has not abolished contractility, but only stimulated the movement of the cardiac fiber in the direction of its extensility. The antagonism of the two poisons by means of action upon different mechanisms is analogous to the cardiac antagonism which exists between muscarine and atropine. I have repeated the experiment on the frog, with similar results.
>
> A frog at 10.30 received 8 centigrammes of bisulphate and a second similar dose at 10.41. Just before the injection the heart was contracting at the rate of 30 beats a minute; the base in maximum diastole measured 9 millimetres. Within three minutes after the injection the cardiac cycles became intensified, the diastole increased, the systole also energetic, but no longer rendering the ventricle white. In nine minutes the base diameter had decreased to 8 millimetres. In fifteen minutes the base had increased in diastole to 11 millimetres; the number of beats had fallen to 15 in a minute.
>
> In a second frog, previous to the use of quinine the heart beat at 30 in the minute, becoming completely white in systole; the maximum diameter of the base measured 7 millimetres. Eight centigrammes of bisulphate were injected in two doses. In four minutes the beats had fallen to 24, in eight minutes to 22, and the base measured 9 millimetres. At this time the ventricle exhibited isolated tonic contractions by which it was divided in three parts. A similar observation has been made by Chirone.
>
> In twelve minutes the heart remained red throughout systole; the base measured 10 millimetres. In nineteen minutes the base measured 11 millimetres; the number of beats had fallen to 16.

It is noteworthy that when monosulphate of quinine dissolved in water by means of acid was used, the heart was arrested in diastole in less than five minutes. The effect is here attributable to the acid rather than to the quinine. Only the soluble bisulphate is suitable for the experiment.

In addition to the experiments intended to directly measure the size of the heart in diastole and which I have imitated from Chirone, I have been able to make others which exhibit the influence of quinine on the cardiac tracings, obtained by means of a lever. For this purpose a frog, previously quieted by a quarter of a milligramme of woorara, was attached to the frog-plate and the heart exposed. A light lever, composed of a straw and an exploring disc of pith, reposed on the heart, and registered its movements on the revolving cylinder. The first trace is the normal trace of the same frog to which quinine was subsequently administered. The pericardium was intact, and on this account the excursions of the lever are less ample than in the other tracings. The heart beat thirty times in a minute. To the same frog was then administered 0·08 centigramme of bisulphate of quinine, and the first tracing taken ten minutes later. An immediate and noticeable change took place in the tracing. The stroke marking the systole of the ventricle is 3 millimetres high and 5 broad, while before the quinine it was 2 millimetres high and 5 broad. The systole therefore is more energetic, but no more prolonged. The diastole, on the contrary, is markedly prolonged, being scarcely measurable on the normal trace, while a perfectly straight line of 3 millimetres in length measures it on the quinine tracing. The extreme shortness of the diastole on the pre-quinine trace is not always observed, but quite the contrary, as may be shown by the other normal tracings taken from another frog. But the peculiar abruptness of the diastolic line and general appearance of the tracing following quinine was not observed except under its influence. At the time of this first tracing, ten minutes after the use of quinine, the heart did not offer the characteristic appearance that had been previously noticed—that is, the ventricle did not remain red during systole, but contracted completely, and became entirely white as usual. The number of beats was still thirty in a minute.

The tracing rate of pulsation and other characters remained the same for twenty-four minutes from the time of injection. Then (as shown in the succeeding tracings) when the ventricle began to remain red during systole, the diastole was markedly increased, and the character of the tracing changed. The curve of the systole is the same height—3 millimetres—but the ascent and descent are both gradual instead of so peculiarly abrupt, and the space occupied is 6 millimetres. The diastolic straight line has become a rounded curve, whose extremities are 5 millimetres apart. The diastole is still shorter in time than the systole, but it is increasing in energy, as shown by the sinking of the exploring disc into a curve, instead of a straight line. The rate of pulsation is only 18 to a minute. A strip of tracing 8 centimetres long contains only 9 pulse tracings instead of 17. Nine minutes later and the height of the ventricular systole trace reached a maximum of 4 millimetres, while retaining a breadth of 6 millimetres. The duration, therefore, was the same, the energy still increased; the diastole is a little shortened. In forty-one minutes after the injection the systolic tracing begins to fall in height; in fifty-one minutes the systole is markedly enfeebled and the diastole apparently prolonged, though not really more so than on the previous tracings.

In fifty-four minutes the diastolic tracing becomes again a straight line, but now, for the first time, 6 millimetres in length. The duration of the systole was now expressed by a space of 5 millimetres, so that the diastole had decidedly gained upon it.

The measurements are the same on the last tracing taken fifty-eight minutes after the use of quinine. The observation was then interrupted.

The tracings entirely confirm the inferences drawn from the direct observation of the heart contracting under the influence of quinine. They show the increased length and energy of the diastole, but they show also that this is not a proof of paralysis; for a considerable time the energy of the systole is correlatively increased. The diastole finally gains on the systole, and the heart pauses in diastolic arrest. That the diastole of the heart is as distinctly active as the systole, has been sustained with weighty argument by Pettigrew.

> "There is every reason," says this physiologist, "to believe that the movements of the amœba and the sarcous elements of a muscle are identical. Both can change their form; elongation in one direction entailing shortening in another and opposite direction. . . . The movements of the amœba are doubtless referable to a centripetal and centrifugal power inhering in the protoplasmic mass which enables the creature to advance or elongate, and withdraw or shorten, any part of its body. At times the amœba elongates its entire body by a wavelike movement, after which it sends out lateral processes which exactly correspond with the bulgings produced on a muscular fiber when it is made to contract or shorten under the microscope. . . . The heart differs from the muscular tubes of the bloodvessels, inasmuch as, when it closes, all its diameters are shortened; whereas, when it expands, all its diameters are elongated. . . . The fibers and the sarcous particles of the fibers are arranged vertically, transversely, and obliquely in continuous spirals. . . . The heart acts as a sucking and propelling organ, in virtue of its centripetal and centrifugal force. The heart has the power of forcibly expanding itself, as it has of forcibly closing itself. . . . The centripetal and centrifugal wave movements pass through the sarcous elements of the different portions of the heart very much as the wind passes through leaves; its particles are stirred in rapid succession, but never at exactly the same instant; the heart is moving as a whole, but its particles are only moving at regular and stated intervals, the periods of repose, there is every reason to believe, greatly exceeding the periods of activity. . . . The position of rest does not correspond either to diastole or systole, but to a line midway between both."

This conception, which perfectly corresponds to the facts of muscular action in the heart, the limbs, the hollow viscera, and the invertebrate animals, furnishes a solid base for the theory that the increased dilatation of the heart under the influence of quinine is due to an active stimulation of the diastole, and not to a commencing paralysis. According to Chirone, the same diastolic action is exerted by quinine upon the arterioles. The administration of quinine to a rabbit causes a marked hyperæmia of the ears, which grow hot, and after a while begin to pulsate. The same phenomenon is observed if the auricular nerve, carrying the vaso-motor fibers of the ear, is divided previously to the administration of the quinine. The passive dilatation of the blood-vessels which immediately follows upon this operation is much exceeded by the active dilatation under the influence of the quinine.

In a small rabbit to whom I gave hypodermically ten grains of quinine, the blood-vessels of the ears almost immediately dilated; in five minutes the animal had an epileptiform convulsions; five minutes later a second, which terminated fatally. In another rabbit the same sudden flushing of the ears occurred five minutes after a dose of 8 centigrammes, but in twenty minutes had began to subside. The animal died two hours later.

The action of quinine upon striped muscular fiber resembles that on the heart and arterial muscles in that it seems to finally depress the energy of contraction. Thus it is ranked by Brunton among the muscular depressants. I will not extend this paper unduly by analyzing this action of quinine, which only remotely bears upon the effects which here concern us. The accompanying tracings, however, taken from the gastrocnemius of a frog, excised and placed in Pfluger's myograph, may be interesting as showing the truth of Brunton's proposition. Traces vii to xii were taken with a stationary, the others with a revolving cylinder. It will be seen that the height of the contractions, as also the number obtainable before exhaustion, is decidedly less after the quinine.

When the revolving cylinder was used, the load on the muscle was increased from twenty to forty grammes; the distance of the Du Bois-Reymond cylinder diminished from 210 to 150 millimetres. The excursions of the lever are enormously augmented both in the normal and in the quinine muscle, and about in the same proportion. Their maximum height in the first is 4½ centimetres, in the second 3½.

In the normal muscle were obtained sixty-three tracings of the first kind shown on the paper (traces xiii to xvii), before the energy of contraction is modified; the quinine muscle only gives fifty-one.

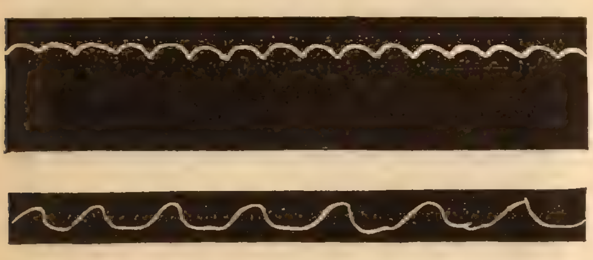
The normal muscle gave one hundred and forty-seven contractions before the shape of the tracing was markedly modified by prolongation of the descending stroke; but this occurred after the sixtieth contraction with the quinine muscle (traces xviii to xxiii). The descent of the lever corresponds to the relaxation or diastole of the muscle. In the quinine muscle this diastolic movement begins much earlier and becomes much more marked than in the normal muscle, though the irritability of the muscle, as shown by its response to the stimulus, seems to last as long with as without the quinine, and to be regained as thoroughly after repose. The slow and ample diastole should not, therefore, be attributed to paralysis, although the systolic—the contractile energy, usually so called—be diminished. But the diastole is directly increased in the voluntary as in the cardiac muscle. The application of these interesting observations to the theory of quinine in pneumonia is obvious and, it seems to me, important.

According to them, the immediate effect of the quinine would be an increased diastole of the heart, in virtue of which blood must be more energetically aspired into it and from the lungs. Simultaneously, but correlatively, the systolic contraction is increased in energy, tending to drive the blood onward, in the pulmonary as in the systemic circulation. Thus, in a double way, an energetic influence is instituted calculated to dissipate congestion in the lung. This cardiac influence should be re-enforced by a similar increase of active diastole in the arterioles of the lungs themselves, due to a direct action of the quinine on their muscular fiber, and therefore independent of complex nerve influences. Without an increase in the energy with which blood may be drawn through and from the lung, an increased energy in the propelling force of the heart might be disastrous rather than beneficial. From the point of view here developed it becomes clear why the best effects of quinine should be obtained with relatively moderate doses, rather than with larger ones. The latter are constantly threatening arrest of the heart from excess of diastole; to use the classical phrase consecrated by experience, they tend to depress the heart, and thus to antagonize the very benefit we hope to gain.

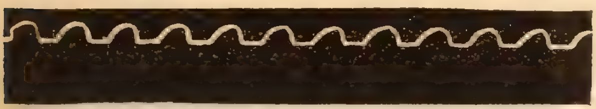
Again, it is clear that this beneficial effect can only be looked for upon the tissues which are the seat of congestion—the congestion peripheric to the foci of inflammation. But experience shows that, if this congestion can be limited, the characteristic morbid process will not extend. The same experience shows that exudations may remain in the lung without causing fever or being dangerous, except in so far as they are liable to caseation. The increased energy of the pulmonary circulation which may be effected by the quinine tends to arrest this danger, though, unfortunately, not always successfully. For the numerous considerations which have been alleged, it should follow that a direct antipyretic effect was not to be looked for in using quinine in pneumonia, however often high temperatures were observed to fall after its administration. It is both useless and dangerous to push the drug for this purpose; far better, if really excessive temperatures require symptomatic palliation, to effect that with small doses of antipyrine.

On the other hand, the absence of fever, while signs of consolidation persist in the lung, do not contraindicate quinine; on the contrary, quinine will often be followed by the most beneficial effects. These may be seen sometimes in cases of quite chronic pneumonia, or where, many weeks after asserted convalescence from a febrile pulmonary affection, a latent consolidation is discovered as the cause of gastric or nervous symptoms that had been considered quite inexplicable. Under the use of the quinine, not only these, but tubular breathing and percussion dullness may quite disappear.

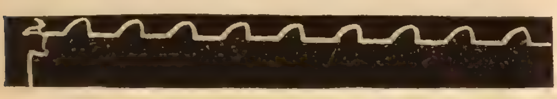
I think the clinical facts which have been adduced in the beginning of this section help to bear out the conclusion that the *characteristic indication for the use of quinine in pneumonia is the dissipation of pulmonary congestion.* Theory and experiment indicate that this is primarily effected through an increase in the diastolic movement of both heart and arterioles. It is not improbable that the same doses of quinine which do this *also re-enforce the medullary nerve-centers, and enable them to better resist vagus irritations*, and that thus, in a second way, the drug, though unable to really cure the disease, tends to limit it, and to arrest the tendency to death. But this large subject is beyond the scope of the present paper.



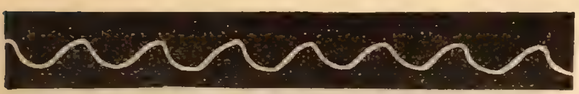
Trace I.—(*a*) Tracing of normal frog's heart, taken *in situ*; beats, 30; ¼ millig. woorara. (*b*) Tracing from another frog's heart.



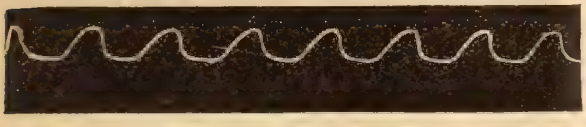
Trace II.—Cardiac tracing from heart (*a*) 10 minutes after hypodermic injection 0·08 bisulphate quinine; beats, 30; time, 5.12.



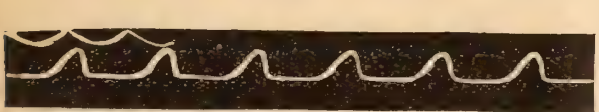
Trace III.—Same at 5.22.



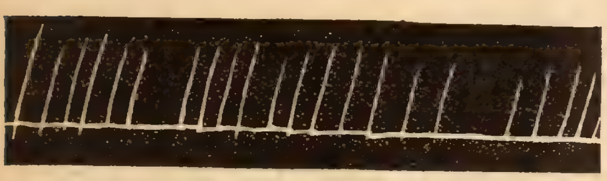
Trace IV.—Same at 5.26; 18 beats to minute; heart red during systole.



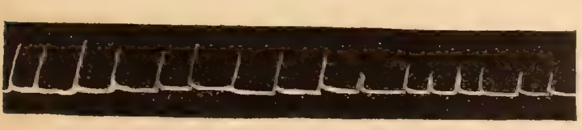
Trace V.—Same at 5.35.



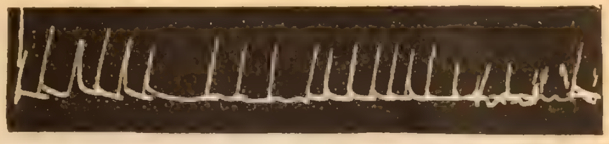
Trace VI.—Same at 5.56. Observation ceased.



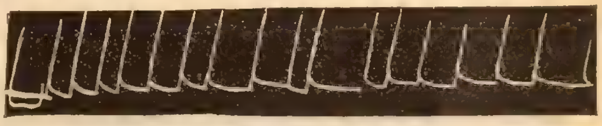
Trace VII.—Contractions of normal gastrocnemius of frog, in Pfluger's myograph, with stationary cylinder; weight, 20 grammes; R. A., 220 millimetres; time, 3.40; height of first 40 contractions, from 15 to 6 millimetres. Circuit closed by hand.



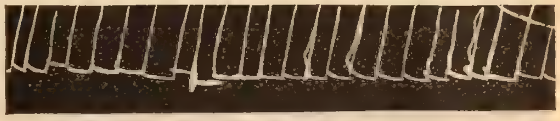
Trace VIII.—Same at 3.47: 96 contractions obtained in 7 minutes before exhaustion. Rest of 1 minute included in this time.



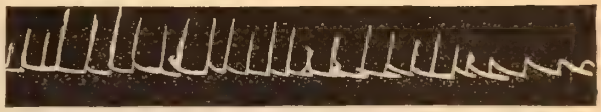
Trace IX.—First contractions gastrocnemius 37 minutes after hypodermic injection of 0·08 bisulphate quinine; cylinder stationary; weight, 20 grammes; R. A., 210 millimetres; exhaustion in 2 minutes, after 61 contractions; height of first 40 contractions, from 10 to 3 millimetres. Circuit closed by hand.



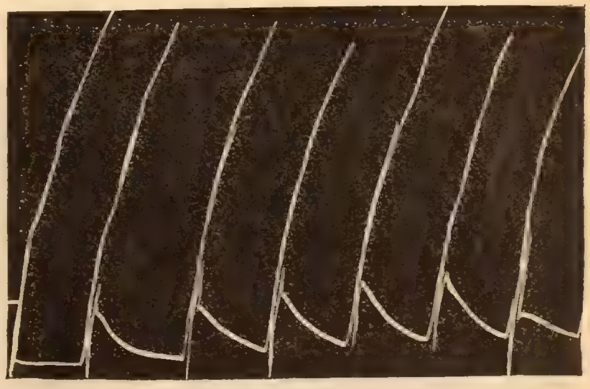
Trace X.



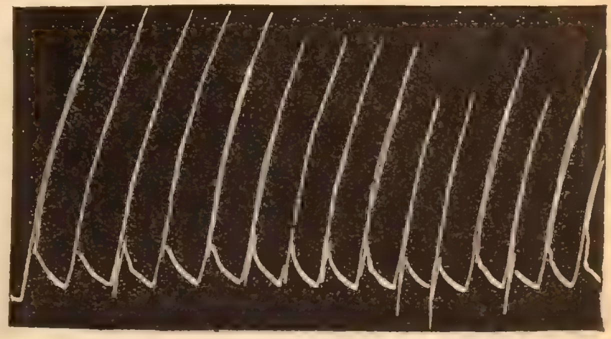
Trace XI.



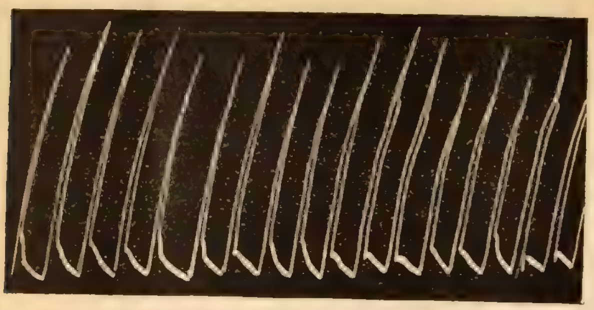
Trace XII.—Same muscle after rest of 9 minutes; exhaustion in 2 minutes, after 54 contractions; height of first 40 contractions, from 10 to 5 millimetres.



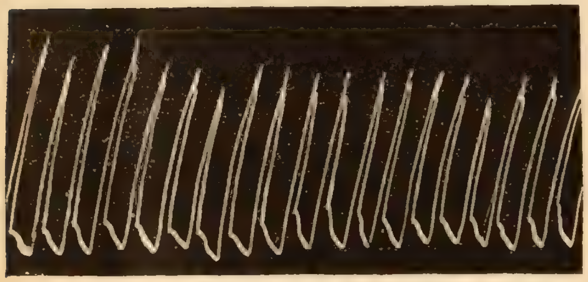
Trace XIII.—Normal muscle; rotating cylinder; weight, 40 grammes; R. A., 150 millimetres; time, 3.56; shocks received automatically.



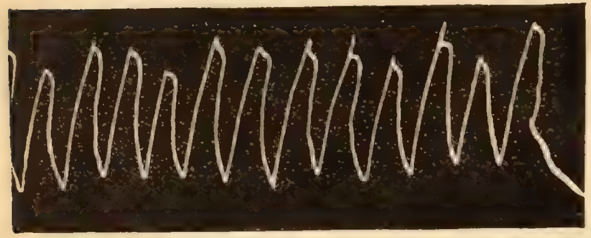
Trace XIV.—Same continued.



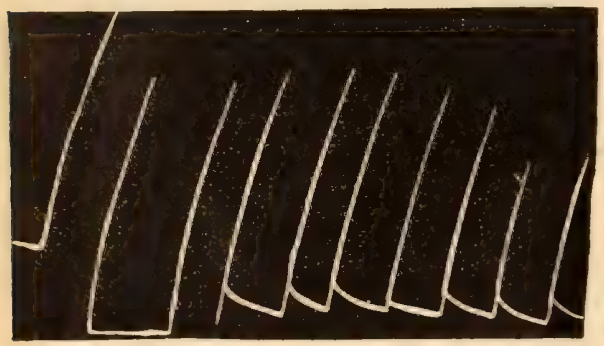
Trace XV.—Same continued.



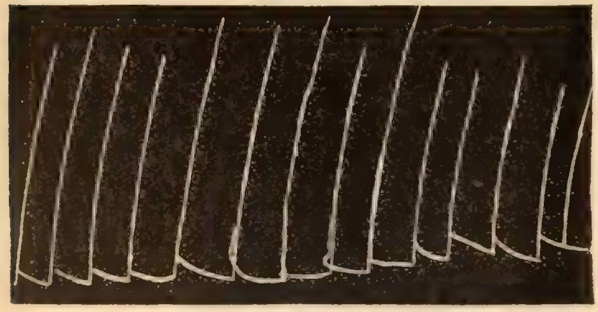
Trace XVI.—Same continued.



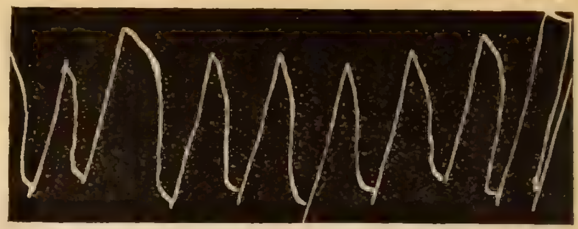
Trace XVII.—Same continued at 4.03; total number contractions in 7 minutes, 147.



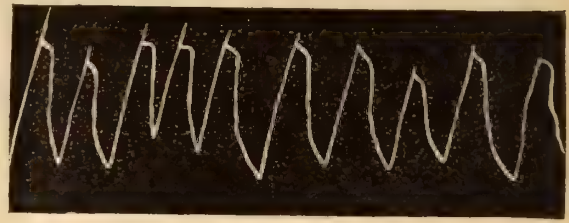
Trace XVIII.—Gastrocnemius 30 minutes after 0·08 bisulphate of quinine; rotating cylinder; weight, 40 grammes; R. A., 150 millimetres.



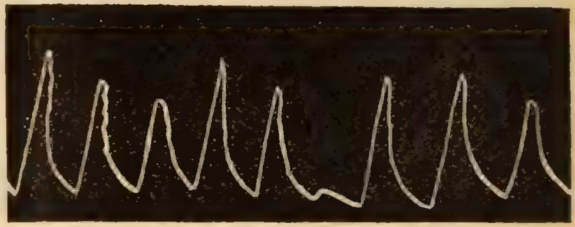
Trace XIX.—Same continued.



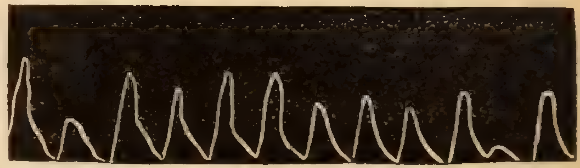
Trace XX.—Same continued.



Trace XXI.—Same continued.



Trace XXII.—Same continued.



Trace XXIII.—Same continued: total number contractions, 138.

INTUBATION OF THE LARYNX.*

By GEORGE McNAUGHTON, M. D.,

BROOKLYN.

"Intubation of the larynx means the introduction through the mouth of a tube which rests solely in the larynx and allows the epiglottis to close during the act of deglutition." With the exception of the experiments of Bouchut, all previous attempts were made with long tubes, one end of which rested in the larynx and the other protruded from the mouth or nose.

In January, 1880, Dr. Joseph O'Dwyer, of New York city, conceived the method which is now known by his name. Although this operation has been before the profession but a short time, it is now recognized throughout the medical world; and probably the name of O'Dwyer is as generally known as that of any other American surgeon, and I am sure that to O'Dwyer humanity and the profession owe a debt of gratitude. For five years he worked quietly and faithfully, receiving little or no encouragement from the few who were aware of his attempts. He did not desire to make his achievements known until all was satisfactory to himself, and it was with the greatest difficulty that he was persuaded to appear before two medical societies to demonstrate his methods. He preferred that the profession should take it up critically, and that it should provoke no undue enthusiasm, lest in consequence of failures, sure to occur, it might fall into disrepute.

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* Read before the Medical Society of the County of Kings, March 18, 1887.

It will be unnecessary to relate the various stages of development and the changes made in the shape of the tubes from the beginning of Dr. O'Dwyer's experiments to the present time. I will simply describe the set as now sold by the instrument-makers. The tubes are five in number, varying from one inch and a half to two inches and a half in length, made of metal, and heavily plated with gold, each tube having a separate obturator, a mouth-gag, an extractor, and a scale to indicate the ages for which the corresponding tubes are suitable.

It has been argued that the caliber of the tubes is not large enough to pass sufficient air for respiration. This point is easily set aside by placing a tube, suitable for a twelve-year-old child, between the lips and closing the nose. It will be found that an adult can so obtain a good supply of air without much increase of normal respiration. It will be noticed that the heads of the tubes are rounded off to prevent pressure against the base of the epiglottis.

The indications for intubation are the same as for tracheotomy—cyanosis, marked recession of those parts of the chest-wall which yield to the external air pressure when the internal air pressure is much diminished, absence or feebleness of the respiratory murmur over the lower posterior part of the lungs, and great restlessness. Dr. O'Dwyer says that an increase in the number of respirations in a minute alone is not a sufficient indication for an operation. He says that he has seen patients in such a condition as to need mechanical relief when the respirations were but fifteen to twenty in a minute. He has also seen them suffering marked laryngeal stenosis when making sixty respirations in a minute.

The dangers of intubation are few:

1. Holding the finger too long in the larynx, thereby shutting off the supply of air. Dr. O'Dwyer suggests that the operator make several quick attempts rather than one prolonged effort.

2. Forcing the tube through one of the ventricles of the larynx, an accident possible only by the use of an unjustifiable amount of force.

3. Pushing the membrane down before the tube, an accident most liable to occur on the second introduction. I have never known it to occur on the first introduction, and it can only occur on account of an accumulation of loose membrane at one point in the larynx. This accident is not peculiar to intubation, having occurred to many tracheotomists, and being usually attended with a fatal result. As this accident is liable to occur, and as the patient would be given another chance for life were the trachea opened, I think it well always to have a trachea-tube at hand.

4. The tube entering the œsophagus. This will be indicated by the disappearance of the string, which is always fastened to the tube at the beginning of the operation. As the tube enters the œsophagus it draws the string after it. The string should be seized and the tube drawn out. The string should never be removed from the tube until we are assured that the tube is positively in the larynx. If you will notice the shape of the tubes you will see how they might easily pass through the intestinal tract without exciting much irritation. I can readily see how this accident might happen to one not accustomed to the operation.

In cases accompanied by little or no cough, there may accumulate within the tube more or less mucus, and if this diminishes the caliber of the tube too much, the tube will be coughed out, when it can be cleaned and, if necessary, reinserted. In all cases where the tube has been coughed out it has been thrown entirely out of the mouth, and not swallowed, as one might suppose. If the tube enters the larynx, and the stenosis is located in that part of the respiratory tract, the dyspnœa will be at once relieved. If further proof is necessary, the finger introduced can easily feel the head of the tube beneath the epiglottis.

Some of the gentlemen who have contributed to the literature on this subject have led us to believe that intubation is a simple operation. Having had experience, and having once failed to introduce the tube at all, I must dissent from their opinion. To one not accustomed to putting the finger in that portion of the throat, it is extremely difficult and sometimes impossible. Intubation is more difficult, but resembles somewhat the introduction of a uterine sound without a speculum; both are done entirely by the sense of feeling and our knowledge of the anatomy of the part. In one we have to deal with a comparatively fixed organ and with plenty of time, while in the other we have a movable organ, and with a limited amount of time. Both require dexterity which can only be acquired by experience.

Dr. S. E. Fuller was, as far as I know, the first to perform the O'Dwyer operation in this city.

The patient was a boy of six years, who had laryngeal diphtheria, following the same disease in the pharynx and nasal cavities. He was in bad condition generally, dyspnœa having begun several hours before the tube was inserted. After consultation we decided on intubation. Dr. Fuller had never seen the operation or instruments, but, having had much experience in treating diseases of the larynx and being familiar with the anatomical points, he succeeded, after three or four attempts, in placing the tube in the larynx. The insertion was followed by a violent fit of coughing. The patient then became quiet, breathed easily, and very soon fell asleep. So far the operation was very satisfactory, and we were glad that tracheotomy had not been done. The patient experienced much difficulty in swallowing, succeeding best with semi-solids. Liquids caused such a choking and coughing that the patient soon refused to try. We tried rectal feeding, but with little success. We hoped he would become accustomed to the tube sufficiently to allow him to swallow without these disturbances, but in this we were disappointed. Secondary dyspnœa became noticeable about twenty-four hours after the insertion of the tube, and the patient grew rapidly worse. We concluded to remove the tube. The dyspnœa was not relieved on this being done, but became more marked. The boy died as the tube was being reinserted.

I believe, in this case, a piece of detached membrane, coming in contact with and occluding the tube, hastened the death. But this accident has also occurred in tracheotomy. It has occurred with Dr. O'Dwyer but three times in his large number of cases. We should not, therefore, condemn intubation.

(I noticed in the "New York Medical Journal" for March 5th a letter from Dr. Ferguson, of Troy, in which he tells of a similar case in which the accident happened on the first introduction.)

All methods of treatment for laryngeal stenosis have their drawbacks, and this is no exception. I will mention them as they have occurred to me.

1. The difficulty of introducing the tube. I do not think any one should attempt the operation without previous practice on the cadaver. Without this practice failure is almost certain to result. By rare good luck the tube might be placed on the first trial, while the second and succeeding attempts would be failures.

2. The difficulty patients have in swallowing while the tube is in the larynx. But this is not an invariable difficulty. About ten days ago I placed a tube in the larynx of a patient who had no difficulty in swallowing everything offered, both liquid and solid. Dr. Read and Dr. Bartley witnessed this operation, and I should be pleased if they would favor the society with their impressions of the operation. In cases where the patient can not swallow readily, I think an œsophageal tube could be used with advantage.

3. A liability of occlusion from detached pieces of membrane. But this is probably no more liable to occur in intubation than in tracheotomy. Nevertheless, it is one of the objections.

Having enumerated the disadvantages, I will now speak of the advantages of the operation, and I hope the balance will lie in favor of intubation.

1. It is not difficult to obtain permission of the friends or relatives of the patient as soon as they understand that no cutting is to be done. This consent is difficult as regards tracheotomy, as neither the physician nor the people put much faith in the success of the latter operation.

2. The rapidity with which the operation may be performed, the time occupied by one skilled in the operation being but a few seconds.

3. A trained nurse is not necessary, as the tubes will take care of themselves.

4. It is much safer for the physician and attendants.

5. The air enters by the proper channel, is warmed thereby, and is less liable to irritate the mucous membrane below.

6. The patient can whisper and so make his wants known.

7. One of the greatest advantages of intubation over tracheotomy is that it allows of a cough of far more expulsive power, thereby getting rid of bronchial secretions.

It is to be remembered that intubation does not preclude tracheotomy, but I think that it should always be tried before tracheotomy is resorted to.

	Cases.	Recoveries.		Cases.	Recoveries.
O'Dwyer.....	123	23	Ingals.......	5	2
Dillon Brown.	71	15	Torchheimer.	5	2
Northrup.....	26	6	Strong......	2	..
Waxham.....	83	23	Huber.......	11	4
Montgomery..	5	2	Hause.......	5	1
Jennings....	5	1			
Donaldson....	1	..	Total......	280	71
Cheatham	4	1			

Recoveries over 25 per cent.

In the "Medical Record" for September 4th, Dr. Waxham, of Chicago, says that "in 306 cases of tracheotomy performed in that city, there were 58 recoveries, or 18·95 per cent., while in 83 cases of intubation, 23 recovered, or 27·71 per cent."

The most difficult part of the operation is to remove the tube, but I know that this will become much easier with practice. It is possible to throw the tube out by turning the child on its face and pressing the larynx from the outside, although I do not deem this method a safe one.

[From the time this paper was presented up to the 1st of April I have intubated the larynx five times, with one recovery. Three of these patients suffered from diphtheritic laryngitis and two from croup following measles. The child which recovered had albuminuria at the time of the attack, and now suffers from paralysis of the soft palate. She is three years and a half old. For several days she was fed with a No. 16 catheter, a syringe being used to throw the nourishment through into the stomach.]

THE USES OF ADHESIVE PLASTER IN ORTHOPÆDIC SURGERY.*

By A. B. JUDSON, M. D.

THE earliest record, so far as I am aware, of the use of adhesive plaster in orthopædic practice is found in the fifth edition, published in 1740, of Cheselden's "Anatomy." On pages 37 and 38 he writes as follows: "The first knowledge I had of a cure of this disease (congenital club-foot) was from Mr. Presgrove, a professed bone-setter, then living in Westminster. I recommended the patient to him, not knowing how to cure him myself. His way was by holding the foot as near the natural posture as he could, and then rolling it up with straps of sticking-plaster, which he repeated from time to time as he saw occasion until the limb was restored to a natural position." This method, improved by the application of a strip of adhesive plaster surrounding the foot and extending up the leg, was advocated at a "clinique" held in this city in 1850 by the late Dr. S. D. Gross, who was at that time Professor of Surgery in the University,† and also by Dr. J. N. Quimby in a notable paper read before the Academy in 1867.‡ Plaster applied in this way will probably continue to be used occasionally in the management of congenital club-foot in its early stage. Combined with other apparatus, it has been quite extensively used in the treatment of all stages of the affection. It is an essential part of the varieties of apparatus described by D. Gilbert,[*] Jolliffe Tufnell,[†] L. A. Sayre,[‡] C. F. Stillman,[#] E. Develin,[‖] and F. T. Paul.[△] It is used in fixing the points of origin and insertion of artificial muscles, as applied by Barwell.[◊] It was used in the "extension shoe" described by Dr. Shaffer in 1878,[‡] but its use in this apparatus has been discarded by him, as explained in an elaborate and interesting paper recently read before the Academy.[‡]

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* Read before the Section in Orthopædic Surgery of the New York Academy of Medicine, March 18, 1887.

† "New York Medical Gazette," December 21, 1850, p. 390.

‡ "Bulletin," November 20, 1867, p. 264.

I have found it possible to overcome the deformity in several cases of neglected and obstinate varus by "untwisting" the foot by means of a strap of adhesive plaster encircling the foot and buckled by an attached piece of webbing to the outside of the vertical part of the foot-piece of a club-foot shoe, as shown in Fig. 1, which represents schematically a transverse vertical section of the foot and foot-piece, the broken line representing the adhesive plaster, the dotted line the webbing, and A the position of the buckle.

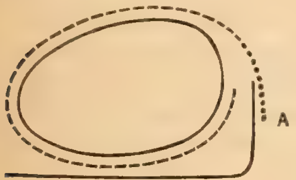

Fig. 1.

In passing I may notice that the overlapping of the toes, which is a frequent accompaniment of acquired club-foot, may be easily corrected by the use of adhesive plaster. This affection, though trifling in itself, may give rise to the conditions known as hallux valgus and "hammer-toe," the latter being a dorsal projection of the proximal phalangeal joint of the second or third toe resembling the hammer of a gun. It is a very painful and inconvenient deformity, and has not infrequently led to amputation and other forms of operative interference.[‡] Overlapping may be arrested by a single narrow strip of adhesive plaster passed over and under and between the toes in such a manner as to reduce them to a straight line, as shown in Fig. 2, which represents the reduction of the overlapping second toe, the plaster being applied with the adhesive surface uppermost. In children this treatment permanently restores the toes to their normal position in a few days.

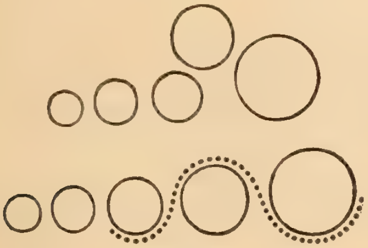

Fig. 2.

Adhesive plaster for making prehension of the head has been widely used in the treatment of torticollis. Dr. Gilbert,[*] of Philadelphia, applied a strip passing under the chin from one temple to the other. Dr. W. J. Little,[†] of London, encircled the forehead and occiput. Dr. A. J. Steele,[‡] of St. Louis, encircled the forehead and occiput, and added two strips passing over the top of the head from side to side. Dr. L. A. Sayre[#] applies a wide strip of plaster from one temple to the other across the forehead, a strip of muslin being attached to the extremities of the plaster and passing around the head. Prehension of the head being secured in one of these ways, a fixed point from which traction may be made is found by Dr. Gilbert and Dr. Sayre in an axillary band on the unaffected side, and by Dr. Little in a waistband of adhesive plaster, which is re-enforced by Dr. Steele by a perineal strap. The methods of Dr. Sayre and Dr. Steele have whatever advantage is derived from the introduction of elastic traction.

Traction, which is such a prominent feature of the orthopædic practice of the present day, is applied by the use of adhesive plaster with a degree of ease and convenience which may be appreciated by recalling the experience of those who treated joint diseases by the application of traction before the introduction of adhesive plaster as a means of making prehension of the limb. So far as I am aware, Brodie was the first who applied traction in the treatment of hip disease. He used the weight and pulley, and said: "A bandage may be placed round the thigh above the condyle with a cord attached to it passing over the pulley."[‖] Ducros[△] and William Harris,[◊] working independently, applied traction by the long splint which was in use for treatment of fracture of the thigh. The former probably used a fillet around the ankle, and the latter the laced buckskin gaiter of Hagedorn's splint. Bonnet, in *le grand appareil*, made prehension of the limb by means of the starch bandage,[‡] and Ferdinand Martin[‡] flexed the patient's knee and ingeniously made traction by applying force to the calf of the leg in a line parallel with the axis of the thigh.

It would be interesting, but foreign to our purpose, to trace the gradual substitution of the use of adhesive plaster for these painful methods of grasping the limb in the treatment of fractures. It is enough to say that it was first described in 1830 by the late Dr. S. D. Gross,[‡] who had learned it from Dr. Joseph K. Swift, of Easton, Pa., and, after being advocated by Dr. Josiah Crosby,* of New Hampshire, in 1850, it was in a few years generally recognized in this country as a most valuable addition to the therapeutics of fractures.

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[*] "Philadelphia Med. Examiner," December, 1852, p. 786.

[†] "Dublin Quart. Jour. of Med. Sci.," November, 1869, pp. 70–72.

[‡] "Medical Record," July 15, 1874, p. 363.

[#] "Trans. of the American Med. Assoc.," 1880, pp. 779–792.

[‖] "Med. News," August 22, 1885, pp. 205, 206.

[△] "British Med. Journal," April 11, 1885, pp. 735, 736.

[◊] "Medico-chirurgical Transactions," London, 1862, pp. 25–42.

[‡] "Med. Record," November 23, 1878, pp. 401–404.

[‡] "N. Y. Medical Journal," March 5, 1887, pp. 253–261; March 12, 1887, pp. 287–292.

[‡] See Annandale's "Malformations of the Fingers and Toes," 1865, pp. 63–65, Plate vi.

[*] "Phil. Med. Examiner," December, 1852, pp. 786, 787.

[†] "Deformities of the Human Frame," London, 1853, pp. 193, 194.

[‡] "Trans. of the Med. Assoc. of the State of Missouri," 1876, pp. 37–49.

[#] "Lectures on Orthopædic Surgery," 1876, pp. 454, 455.

[‖] "Diseases of the Joints," 3d ed., 1834, p. 55.

[△] "Gazette des hôpitaux," June 30, 1835, p. 311.

[◊] "Phil. Med. Examiner," January 19, 1839, pp. 37–40.

[‡] "Traité des maladies des articulations," 1845, vol. ii, p. 324.

[‡] "De la coxalgie," 1865, pp. 488–496.

[‡] "Diseases of the Bones and Joints," 1830, p. 5

The question of more immediate interest is, Who first used adhesive plaster for traction in the treatment of diseases of the joints? I have not found the answer in the literature of the subject. And yet, so far as hip disease is concerned, this improvement in therapeutics is of more value than any of the very numerous inventions for applying traction in the treatment of this affection. The first record bearing on this point, so far as I am aware, occurs in the April number of the "American Medical Monthly" for 1860, in which Dr. Henry G. Davis and Dr. L. A. Sayre have each an article advocating the treatment of hip disease by the use of adhesive plaster applied to the limb for the purpose of traction.

It is interesting to notice here that, just as adhesive plaster, applied around the pelvis for counter-extension in the treatment of fracture of the thigh, in order to avoid the inconvenience of a perineal strap, was used by Dr. Gilbert in 1851 † and Dr. J. H. Churchill ‡ in 1877, so it was used for the same object in the treatment of hip disease in 1879 by Dr. C. F. Stillman,# who applied mole-skin adhesive plaster, and covered it with plaster of Paris, which, mixing with the nap of the mole-skin, made a fixed point of remarkable stability. Considering the advantages attending the use of a perineal strap, which not only furnishes a fixed point for counter-traction, but also acts as an ischiadic crutch-head when used with the long hip splint, it does not seem to me probable that it will be supplanted by adhesive plaster.

At this point I would like to call attention to some of the natural limitations of the use of adhesive plaster in the treatment of joint diseases. The first instrument invented for the treatment of hip disease did not extend to the ground, and yet it was designed not only to make constant traction on the limb, but also to prevent the weight of the body from being borne on the articular surfaces in standing. A consideration of the apparatus as applied to a patient will, I think, convince an attentive observer that if it is able to relieve the joint surfaces from the weight of the body in standing, the weight will be held up by the perineal strap and thence transferred to the surface of the limb over which the adhesive plaster is spread. In such a case the natural limits of the adhesiveness of the plaster and the integrity of the skin are speedily reached, and the joint surfaces receive at once the weight of the body.

Furthermore, the usefulness of adhesive plaster in orthopædic practice is seriously limited by the fact that, although we intend by its use to control the action and modify the attitude of the skeleton, we are compelled, from the nature of the case, to apply it to the skin, which is not only elastic but also extremely movable on the bony tissue, which lies at a greater or less depth. This is one of the limitations which make it difficult to accomplish all that seems to be desirable in practice. It is supposed that the circumarticular muscles can be directly and potently affected by traction thus applied. Without denying that in some cases and for a limited time slight effects of this kind may be produced, I believe that, as a general thing, the benefit derived from the use of adhesive plaster in the treatment of joint diseases is due to the fixation which accompanies continued traction.

In the case of those joints which are found at the point of contact between the extremities of two long bones, as at the knee between the femur and tibia, the leverage furnished by the length of the bones enables us to obtain, by the use of retentive splints and without adhesive plaster or traction, a degree of fixation sufficient to allay pain and promote recovery, which it is impossible, from the nature of the case, to obtain by retentive splints in the case of the hip. I am not unmindful, however, of the fact that traction with adhesive plaster has been widely advocated in the treatment of disease of other joints than the hip, and especially in the treatment of chronic osteitis of the knee, by Dr. L. A. Sayre,* Dr. C. Fayette Taylor,† Dr. Edmund Andrews,‡ Dr. N. M. Shaffer,# Dr. C. F. Stillman,‖ Dr. Simeon A. Foster,^ and Dr. Sydney Roberts.◊ The results of their treatment have doubtless been excellent, but no better, I think, than the results which follow fixation by retentive apparatus so constructed as to apply the principle of the lever which is so naturally applied to the femur and tibia. Having discussed this question at some length on other occasions, I bespeak a reconsideration of the opinion, which may have been formed or expressed by some of the eminent authorities above named, that counteraction of the muscles, and not fixation of the joint, is the curative agent in the treatment of joint diseases by traction.

In passing it may be noticed that not infrequently in the practice of mechanical surgery adhesive plaster is useful in holding an apparatus in place, although it may not be directly essential to the efficiency of the apparatus. In a convalescent case of hip disease, for instance, when traction is no longer required or maintained, the adhesive plaster previously applied to the limb for the purpose of traction may be useful in keeping the splint from falling off. In such a case the splint is simply an ischiadic crutch, converting the limb into a pendent member, and thus preventing an injurious amount of the weight of the body from descending on the heel of the affected side.

Since traction has helped us to a certain amount of fixation in the difficult hip joint, it is not unreasonable to resort

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* "Trans. of the Am. Med. Assoc.," 1850, pp. 382, 383. One of Dr. Crosby's patients graphically described the sensation produced by this application in these words: "It feels as if my leg was in the mud, and I was trying to pull it out."—"New Hampshire Journal of Medicine," Oct., 1850, p. 65.

† "Am. Jour. of the Med. Sciences," January, 1851, pp. 70–72.

‡ "Med. Record," March 17, 1877, p. 167.

"Med. Record," August 30, 1879, pp. 196–198.

* "Trans. of the Am. Med. Assoc.," 1865, pp. 383–390.

† "N. Y. Med. Journal," July, 1873, p. 46.

‡ "Archives of Clinical Surgery," New York, April 15, 1877, pp. 3–6.

"Archives of Clinical Surgery," June 15, 1877, pp. 90–93.

‖ "Trans. of the Am. Med. Assoc.," 1881, pp. 453–464.

^ "Annals of Anat. and Surgery," January, 1882, pp. 22–26.

◊ "Med. News," July 26, 1884, pp. 90, 91.

to it in the case of the carious vertebral joint, where there is, above and below the seat of disease, a flexible column which almost nullifies any attempt at fixation, by taking advantage of the principle of the lever. Difficult though the task appears, the application of traction to the vertebral column by the use of adhesive plaster was advocated by Dr. Andrews [*] in 1863 and Dr. George A. Berry [†] in 1879. I think it will generally be considered that, except in certain urgent cases, the difficulty which attends this application will more than counterbalance whatever special advantages may attend this plan of treatment. Dr. H. O. Marcy [‡] and Dr. J. J. Reid [#] used adhesive plaster for the suspension of patients during the application of the plaster-of-Paris jacket, the former applying it to the back of the neck and head, and the latter to the back and front of the chest. The remarkably simple and ingenious device of Dr. Reid is well worthy of study.

In the practical remarks which follow, reference is had to plasters which owe their adhesiveness chiefly to the presence of tropical gums, and not to the resin plaster which is sometimes called lead plaster or diachylon. In 1848 Mr. D. F. Eyre, of Derby, England, proposed India-rubber dissolved in naphtha as a material for the manufacture of adhesive plaster. He wrote as follows: "If liquid India-rubber, spread upon calico or other material by a stiff brush or by a knife, be used as adhesive plaster, it will be found to answer far better, in almost every case, than any other adhesive material, as it sticks firmly, is pliant, produces no irritation to the skin, and will bear lotions or washing over it." [‖]

Notwithstanding this early reference and the occasional experimental use of India-rubber in this way, we are largely indebted for the introduction of gum plaster to Dr. H. A. Martin,[△] who zealously advocated it in 1877. The article now manufactured has all the merits which were alleged by Mr. Eyre. It is sticky, pliant, non-irritative, water-proof, and, in addition, cheap and convenient. The softness and pliancy of this plaster when applied to the skin distinguish it from the lead plaster which composed "Scott's dressing," [◊] one of the objects of which was to prevent the motion of a diseased joint by the application of adhesive plaster in layers around the joint and to some distance above and below.

In practice I have found that the lighter kinds of plaster can be used, even where great strength is required, by stitching a piece of tape on the back of the plaster before the webbing or buckle is sewed on. When the sewing-machine refuses to work from the collection of gum on the needle, a drop of oil may be applied to the shuttle. If the stitches are in parallel lines, they will not interfere with the easy removal of the facing of thin muslin with which the adhesive surface of the plaster is protected.

The extreme adhesiveness of gum makes it possible to apply very powerful traction with two vertical strips of considerable width, extending to the upper part of the thigh. The ordinary roller bandage may also be dispensed with, its place being conveniently and cheaply taken by a laced muslin legging. The excellence of this device—first used, I believe, in the practice of Dr. C. Fayette Taylor—becomes evident when the patient's joint is in a painful condition, acutely resenting the disturbance which necessarily attends passing the roller under the limb and tightening the turns and reverses. In such a case the legging may be applied painlessly. Besides, it may be washed and reapplied by unskilled hands.

If a high degree of traction is employed during hot weather or while the patient's room or bed is overheated, the plaster will gradually slip down, making it necessary to buckle shorter the leather straps which proceed to the foot-piece, and in time the plaster will have to be renewed. Its removal from a very hairy surface may be facilitated by the free use of benzine or naphtha, either of which is dangerously inflammable.

The occurrence of eczema under adhesive plaster, no matter what kind of plaster is used, is an occasional inconvenient incident. It is apparently caused by the retention of moisture. The same condition follows a continued poultice or "wet-pack." It is said that its appearance in water-cure establishments is sometimes pointed to as an evidence that morbid material is being expelled from the body. In my experience this form of eczema rapidly disappears on the removal of the plaster if the patient will consent not to scratch the affected surface. I have found it convenient to apply one of the vertical strips of plaster on the inner and anterior surface of the limb, as shown at A, Fig. 3, and the other on the outer and posterior surface, B; and when they are renewed, one on the inner and posterior, C, and the other on the outer and anterior surface, D. By following this plan no portion of the skin is kept too long covered by the plaster. The long distance between the foot-piece and the lowest point of attachment of the plaster prevents the twisting of the splint on the limb, which might at the first glance seem likely to follow this arrangement.

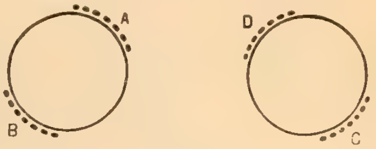

Fig. 3.

I will close by referring to the use of adhesive plaster as a covering for all kinds of surgical apparatus that are exposed to rust from contact with the body or otherwise. Club-foot shoes may be lined with it in several layers if desirable. A strip of plaster wound around a piece of steel retains its place for an indefinite time, saves the expense of polishing and electro-plating, and may be covered at will with chamois leather or spirally with a strip of Canton flannel or silk.

42 East Twenty-first Street.

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[*] "Chicago Med. Examiner," September, 1863, pp. 419–421.

[†] "Edinburgh Med. Journal," July, 1879, pp. 45–47.

[‡] "Boston Med. and Surg. Journal," Nov. 30, 1876, p. 654.

[#] "New York Med. Journal," July, 1878, pp. 37–42.

[‖] "Lancet," Feb. 19, 1848, p. 210.

[△] "Boston Med. and Surg. Journal," Oct. 11, 1877, pp. 407–411.

[◊] Brodie on "Diseases of the Joints," 1821, p. 243. "Diseases of the Joints," John Scott, London, 1828, p. 134.

EUPHORBIA HETERODOXA.

By JAMES BARNSFATHER, M. D.,

MEMBER OF THE PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, DAYTON, KY.

This Brazilian euphorbiaceous plant, the *alveloz*, the milky juice and resin of which have been recommended as a cure for cancer and ulcers of a malignant type, destroys morbid tissue without much pain, but causes smarting on healthy flesh. I may state that in *all* the cases I have used it in it has acted on the kidneys.

The first cancer case I treated with alveloz was in October, 1885. The following is a copy of a letter I sent to Dr. John B. Hamilton, Surgeon-General, U. S. Marine-Hospital service, Washington, D. C., and his answer:

"In the July number of the 'Cincinnati Medical News' I saw a notice of the new alleged cancer-cure, 'alveloz milk,' and of your exhibiting a patient at a meeting of the medical society showing a cure of lupus of the nose by its use. I wish to state that I have at present a patient in Cincinnati who is suffering with carcinoma uteri, and whose case has been given up by two physicians as hopeless, and who was at death's door from five weeks' hæmorrhage previous to my taking charge of the case. I have had her under the alveloz-milk treatment for fourteen days, and in that time the improvement has been marked. The physiological action of the drug is as follows: On application to the os, there is an intense burning feeling in the vagina, lasting from two to four hours. Absorption of the medicine evidently takes place, as in six hours after every application profuse discharges from the kidneys of a highly colored and offensively smelling urine commence to flow, and continue at intervals of two or three hours, until about a gallon has passed. The local bleeding ceased after three applications to the os, and since that time there has been a continuous flow of pus. I may state also that the lancinating pains have completely ceased, and she was able yesterday to get out of bed, dress herself, and walk into another room, without any ill effect whatever. She also eats and sleeps well since the application of the remedy, with the exception of getting up to pass water every two hours during the night. *The skin also has lost its sallow hue*, and the patient states that her nervous irritability is entirely gone." . . .

Answer: "Washington, October 23, 1885. Your favor of the 20th is at hand. I am obliged to you for your account of your experience with the alveloz. How did you apply the drug? Those who have used it here claim that they have had entirely negative results. My experience varies; with some samples the effect is all that could be desired, with others there has been no benefit whatever. I have had much better results with the resin, which comes in granular form, than with the later samples of the 'milk,' which seems very unstable, and in some cases worthless. If it had proved equal to the first, I should have been glad, but I do not think it at all certain as to freshness. I should like to hear further from you as to the outcome of your cases." . . .

"Dayton, October 28, 1885. Received your very kind letter, and in reply beg to say I apply the drug to the os uteri with a brush, through a glass speculum, and repeat the application every twenty-four hours. My patient still enjoys freedom from pain, and only complains of the annoyance of passing water so often. Since I wrote you, eleven small pieces from the inside of the cervix have passed, and I can push my finger easily to the os internum. *Manipulation causes no bleeding now.*" . . .

This patient lived three months in comparative ease, but eventually died from acute peritonitis. Her husband told the writer that, although he knew it was a hopeless case, still the alveloz had saved her "ten thousand pains" she would have suffered if it had not been used. He said: "that alveloz is not only worth its weight in gold, but in diamonds."

Dr. Hamilton, in his letter, makes reference to some of the samples of alveloz *as being worthless.* I beg to indorse that statement as being only too true, as I have at present in my possession an imported bottle, marked Alveloz Milk, with Thomas Christy & Co.'s label on it, 155 Fenchurch Street, London, England, *which has no virtue in it whatever.* It looks like vaseline. [The energetic alveloz looks like pale butter, with the consistence of vaseline. The phials hold six grammes (ʒjss.), and cost $6.50 each.] To be sure I was correct, I applied it to the face of a patient I had used the good alveloz on, and next day she told me it neither acted on her kidneys nor did it smart round the sore as the other did. It is a shame that men, for the sake of a little gain, will adulterate costly drugs; but I can not believe that an eminent drug-house like Christy's would countenance such a thing; it must have been done before they received it. As the virtue of this drug lies in the resin, I suppose there is no resin in my sample. The resin is obtained by treating the alveloz with water, and afterward with absolute alcohol.

Formula for use: Resin, 1 part; vaseline, 33 parts. Mix, and apply to the part affected.

In my first case I used the drug simply, and did not even put an absorbent cotton tampon in the vagina, as I wanted to see what it would do, and govern myself accordingly in subsequent cases; hence, this may account for the burning the patient complained of in her vagina. Now I tampon in all cases, and my patients do not complain of that intense burning. I prepare my tampons by saturating them with benzoic acid dissolved in alcohol. I use them dry, and pack them against the cancerous mass, and it acts as a disinfectant to the discharges as they are absorbed. After all the cervical cancerous growths have been removed, I then saturate the tampons with resorcin dissolved in glycerin (one to seven), and apply after the alveloz has been placed in the uterus. It seems to act very nicely, causing the stump to heal over.

My principal object in writing this article is to bring before the medical profession the fact of the absorption and peculiar action of this drug on the systems of those afflicted with cancer, as I do not think it has been mentioned by any writer on the subject, and hope that those gentlemen who are experimenting with the drug will carefully watch the alterations in the urine microscopically and otherwise, and perhaps they may be able to solve the problem which has baffled the profession to the present time.

With our present knowledge of the drug I do not believe that an old-standing case of cancer, where the whole pelvic cavity is involved, can be cured by the topical application of the medicine, even if by absorption it seemingly attacks the constitutional infection (if we are to judge by the offensive discharges from the kidneys after each application, and the sudden cessation of those discharges when the drug is not used, and the clearing up of the skin while those discharges are going on, and the feeling of lightness patients say they feel under its use, when before they complained of a tired, weary, lifeless feeling, and often wished that death would end their sufferings); but we shall have to look to some other form of the drug as an adjunct, and give it hypodermically, so that we shall be more likely to avoid inflammation of the gastro-intestinal mucous membrane, and the dangerous and sometimes fatal prostration which follows the swallowing of any of the products of the *Euphorbiaceæ*.

April 25, 1887.

Correspondence.

LETTER FROM NEW HAVEN.

The Meeting of the Connecticut Medical Society.

New Haven, Conn., *May 28, 1887.*

The ninety-sixth annual convention of the Connecticut Medical Society was held at the County Court-House, Hartford, on Wednesday and Thursday, May 25th and 26th. The meeting of the president and Fellows occurred on Wednesday afternoon. In his annual address the president, Dr. T. M. Hills, of Willimantic, deprecated further discussion of a change in the charter of the society—a question which has attracted much attention throughout the State during the last two years, on account of the disproportionate representation of the different county societies in the governing body of the State society. He recommended the appointment of a standing Committee on Legislation, to consist of five members, and to be selected by the Nominating Committee. He advised the members to contribute individually to the support of the Ninth International Medical Congress, the treasury of the society not being in a condition to warrant appropriation for this purpose. Finally he expressed his approval of a resolution received from the Wisconsin Medical Society urging the profession to unite in bringing to the attention of Congress the necessity of enacting a law to limit further immigration of the defective classes.

Dr. H. A. Carrington, chairman of the committee appointed at the last annual meeting to confer with the Homœopathic and Eclectic Medical Societies with reference to the enactment of a law for the suppression of quackery, reported that two conferences had been held with committees from these societies. A draft had been made of a proposed law which provided for the early registration of all practitioners in the State, and prohibited subsequent registration by any one who had not graduated at a recognized medical college, until an examination had been passed before a committee of one of the societies. This had been presented to the Legislature late in the session, and consequently action upon it had been postponed until the next session.

The following officers were elected for the ensuing year: President, Dr. Francis Bacon, of New Haven; vice-president, Dr. George L. Porter, of Bridgeport; secretary, Dr. S. B. St. John, of Hartford; treasurer, Dr. E. P. Swasey, of New Britain; committee on matters of professional interest, Dr. George R. Shepherd, of Hartford, Dr. Frank E. Beckwith, of New Haven, and Dr. James Olmstead, of Middletown; dissertator, Dr. William H. Carmalt, of New Haven; alternate, Dr. R. M. Griswold, of North Manchester.

Three of the eight county societies of the State had transmitted resolutions to the State society asking for a change in the charter so that either every member of the society might have an equal voice in the business proceedings, or at least that an increased representation in the governing body should be granted to the larger county societies. Three others had sent resolutions expressing disapproval of the constant discussion of this subject. These were all referred to the Committee on County Resolves, which reported favorably upon the latter resolutions, and unfavorably upon the former. A motion not to accept this report caused an animated discussion, in which Dr. Douglass, of New London, Dr. Griswold, of Manchester, Dr. Carrington, Dr. Beckwith, and Dr. Cremin, of New Haven, Dr. Griswold, of Rocky Hill, and others spoke in favor of a change; and Dr. Cleveland, of Middletown, and Dr. Carmalt, of New Haven, opposed it. On motion of Dr. R. W. Griswold, it was voted that a committee of two from each county be elected by the county societies to consider a revision of the charter, and report a new act of incorporation, if such a change was found desirable.

In the evening a special session was held to listen to a paper on "Ulcerations of the Os Uteri," by Dr. E. W. Cushing, of Boston, who had been invited to address the society by its officers. The paper was illustrated by micro-photographs exhibited with the aid of a stereopticon. These made clear the histological differences between simple and carcinomatous ulceration. The speaker pointed out the indications for, and the methods of using, the various astringents, as well as the necessity, in some cases, of an operation, and the desirability, when this was necessary, of performing it early.

The general meeting of the members of the society was held Thursday morning. The secretary reported the death of eight members, including one ex-president, Dr. C. M. Carleton, of Norwich, the addition of twenty-eight new members, and a total membership of five hundred and eight.

Dr. A. W. Nelson reported that the Committee on Matters of Professional Interest had addressed to the members of the society a circular-letter of inquiry in regard to the fees obtained for professional work, and the amount of work done by irregular practitioners. From seventy-five answers which were received it was learned that the fee charged for visits ranged from seventy-five cents to three dollars, that the charge for mileage was from twenty-five cents to one dollar, for office consultation from fifty cents to two dollars, and for attendance upon uncomplicated cases of midwifery from five to twenty-five dollars. The committee recommended a flexible scale of charges, and in some cases a lowering of the usual charges, so as to aid the poor, and compete with and drive out the irregular practitioners. From fifty cents to two dollars was suggested as a suitable office fee, from one to three dollars as the fee for a visit, and from five dollars upward for cases of confinement.

Other papers which were read were "Relations between Scrofula and Tubercle," by J. B. Kent, and "New Remedies," by Dr. T. H. Russell. In discussing the former, Dr. Nelson spoke highly of the value of inhalations of binoxide of hydrogen in phthisis, and expressed the opinion that this was the foundation of the much-advertised "Compound Oxygen Cure." In commenting upon Dr. Russell's paper, Dr. Carmalt commended the use of paraldehyde in the insomnia following the withdrawal of opium from victims of the opium-habit.

The secretary having called attention to the fact that during the year a circular had been sent to every member of the society charging him with neglect of duty, the following action was taken after a heated discussion: "*Resolved*, That the society condemns the publication of private circulars in general as a method of redressing grievances or bringing to notice alleged neglect of duty by officials of this society."

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CALOMEL INJECTIONS BY A NEW METHOD IN SYPHILIS.

Notwithstanding the oft-repeated attacks of the opponents of mercury and the popular prejudice against it, that drug still remains, as it has been for four centuries, the one sovereign and indispensable remedy for syphilis. As Kaposi said in his very able address before the *Kongress für innere Medicin* last year, the only distinct advances that have been made in the treatment of syphilis since the fifteenth or sixteenth century, with the sole exception of the introduction within the last fifty years of the use of the iodine compounds, have been in the direction of improved methods of administering mercury. Among these improvements Kaposi assigns the first places to the development of the inunction plan and the introduction of hypodermic medication. There is reason to believe that in the direction last mentioned progress in this country has not kept pace with the advances abroad. The routine treatment of constitutional syphilis here, even by those specially concerned with the disease, is that commonly known as internal. Inunctions are much less in vogue than in Germany, and it is doubtful if one patient in a thousand is treated with hypodermic injections. Yet, of all the methods of administering mercury, the hypodermic seems to be scientifically the most correct and rational. By no other method can the remedy be introduced into the system with the same degree of precision as to quantity, and with none other are the phenomena of elimination by the urine so constant and uniform. While, perhaps, the inunction plan is equally effective in curing the disease, it is an extremely rude method, open to this objection—aside from the minor consideration of its inconvenience to the patient—that we have no certain knowledge as to how or in what quantities the mercury gains access to the system; whether it enters through the skin, and, if it does, by what avenues, or whether, as many maintain, it is inhaled by the lungs after its vaporization. When it is administered by the stomach, on the other hand, there is the objection that it is apt to derange the organs of digestion, and thus still further impair the nutrition, already so prejudiced by the disease. Furthermore, there can be no certain relation between the dose administered and the amount absorbed or assimilated.

But, while hypodermic medication has great advantages as to precision, in practice it encounters no inconsiderable difficulties. The affinity of mercury in almost any form for albumin becomes a source of danger to the vitality of the tissues when the drug is introduced in large quantity within a circumscribed space. It may then produce local irritation and even necrosis. Especially does this objection hold good when the simpler mercurials—such as the reguline form, the bichloride in solution, or calomel in suspension—are injected into the subcutaneous cellular tissue. Could this drawback be removed, the treatment of syphilis by hypodermic injections would leave little to be desired. Many mercurial combinations have been devised to accomplish this object, but the chemical difficulties are not easily overcome. The simplest plan, and perhaps the one most commonly adopted, is to add sodium chloride to a bichloride solution, so as to form a double chloride of sodium and mercury, which is supposed to be an approximation to the form under which mercury incorporates itself with the tissue fluids. The bicyanide solution (1 to 1,000 or 2,000), introduced by Cullingworth, is largely employed in Europe, and is said to be much less irritating to the tissues than the bichloride. Good results seem also to have been obtained with Bamberger's albumin and peptone combinations, but they only partially accomplish the object, and the difficulty in preparing them has been found an obstacle to their general use. A few years ago Liebreich, of Berlin, proposed a soluble compound of mercury with formamide, under the name of *hydrargyrum formamidatum solutum*, for which he alleged special chemical advantages by reason of which irritation was avoided and the absorption and elimination of the mercury were decidedly facilitated. The elimination through the kidneys reached its maximum in six weeks, while after the use of sublimate injections eighteen weeks are required, or, when it is combined with sodium chloride, thirteen weeks. After calomel injections, and also after mercurial inunctions, elimination goes on much more slowly, not reaching its maturity, it is said, until six months have elapsed, and, according to Balzer ("Gaz. des hôp."), it may continue for two or three years.

Undoubtedly calomel, when injected into the tissues, is absorbed very slowly, in consequence of which a mercurial remains in the system for a long time before it is eliminated. For this reason, it has been alleged, calomel possesses certain special advantages over other forms of mercury for hypodermic injection. Its slower absorption makes fewer and less frequent injections necessary. Its longer continuance in the system gives greater permanence to its effects, and hence, it is alleged, syphilitic relapses are less likely to occur after its use. The hypodermic injection of calomel, as first proposed by Scarenzio, of Pavia, had fallen into almost complete desuetude on account of the frequency with which severe local inflammation and often abscesses were produced. But recently certain modifications in the method, proposed more particularly by Smirnoff and Neisser, have revived the practice, and in many quarters it is receiving a good deal of attention. The calomel, which is suspended in mucilage or oil, instead of being injected hypodermically, is thrown deep into the muscular tissue, usually in the region of the glutæi. The point selected for the introduction of the needle is in the depression at the side of the natis, three centimetres behind the trochanter major. The number and frequency of the injections vary with different practitioners. Balzer uses the calomel suspended in oil of vaseline (three quarters of a grain to fifteen grains), and makes the injections at weekly intervals, on an average eight in all. Others make the injections only at intervals of three weeks, and assert that four or five injections are all-sufficient. According to Neisser's formula, sodium chloride is added to the mucilage mixture, by reason of which the cannula of the syringe is less liable to be clogged and the local irritation is diminished. Lantz's mixture ("St. Petersburg. med. Wochenschrift") consists of from eighteen to twenty-four grains each of calomel and sodium chloride, from nine to twelve grains of gum arabic, and three drachms of distilled water—this quantity being sufficient for twelve injections containing from a grain and a half to two grains of calomel each. Often as much as three grains of the mercurial salt is injected at once.

With regard to the results of this method of treatment, the reports of those who have given it a trial are not all in accord. Some, while denying that any inconveniences attend it greater than or even as great as those incident to any form of hypodermic medication in syphilis, laud it as superior to all other plans, not only on account of its simplicity, but because of its peculiar efficiency against the disease. Accepting the representations of some of these advocates, we might fairly conclude that older methods were to be entirely superseded, and that the introduction of the new method marked an epoch in the history of anti-syphilitic therapeutics. Unfortunately, we have other reports in which the picture presented is in less glowing colors. Lantz, who seems to have given the method a thorough and impartial trial, reports some objections to it that are by no means inconsiderable. Comparison was made more particularly with the peptonate and formamide solutions of Bamberger and Liebreich. Patients who had already been treated with these latter complained invariably that the calomel injections were more painful. Abscesses were not of infrequent occurrence, and occasionally the irritation was such that the whole gluteal region became swollen and inflamed. Moreover, salivation was relatively frequent. It is possible, however, that much of the local irritation may be avoided by stricter attention to technical details. It is said that the production of abscesses is often due to the escape of some of the injected fluid into the subcutaneous cellular tissue instead of its being wholly deposited within the muscle.

With regard to the alleged freedom from relapses after this treatment, the evidence is insufficient. It is not easy to determine such a point with the constantly shifting "material" of a hospital practice. As suggested by Diday ("Lyon médical"), the best sphere for such an investigation is the medical department of an army, where the subjects treated can be under observation for long periods of time. For the present, we may look upon the new method, if not as a new weapon, at least as a new string to the bow which has long stood us in stead as our most effectual arm against a dreaded and insidious disease.

MINOR PARAGRAPHS.

THE BY-PATHS OF MEDICAL CHARITY.

To contribute, however indirectly, to a sick person's comfort or, so far as the capacity for it may be present, his enjoyment, is not only noble in itself, but palpably contributory to rapidity of recovery, and even in many instances to its occurrence. We must therefore look upon the various hospital "missions," comprising those that are devoted to furnishing the patients with flowers, reading matter, and the like, as most praiseworthy and efficient adjuncts to the efforts of the medical officers. A new organization of this sort is now attracting attention in Boston, having for its object the supplying of pictures for the walls of the hospital wards. We understand that, by a system of securing loans of pictures, even costly works of art are likely to be placed before the patients, and that the plan includes the practice of changing the pictures at intervals. This latter feature will doubtless facilitate the loan system, and it has the additional advantage of presenting an agreeable variety to those whose convalescence is protracted. Another important collateral channel of medical charity is that by which apparatus of one kind or another is supplied to those who are suffering with some sort of physical disability, whether they are inmates of hospitals or still attempting, under great disadvantage, to ply their several vocations. A commendable example is the "spectacle mission" lately established by an English physician, Dr. Edward Waring, as we learn by the "Lancet," the object of which is to furnish suitable glasses to the poor.

O'DWYER'S OPERATION IN EUROPE.

We lately remarked upon the slight attention which had been given in Europe to Dr. O'Dwyer's procedure of intubation of the larynx. We are glad to see indications that the device is getting to be more thought of abroad than has heretofore been the case. In a recent issue of the "Wiener medicinische Presse," Dr. Störk publishes an article in which he deals particularly with "Tubage des Larynx nach O'Dwyer." The author has invented a forceps of his own for introducing the tube, and he speaks very favorably of the merits of the operation.

A FRENCH VERSION OF EMMET'S "GYNÆCOLOGY."

A French edition of Dr. Emmet's "Principles and Practice of Gynæcology" has recently been issued in Paris, the translator being Dr. Adolphe Olivier, adjunct secretary of the Paris Obstetrical and Gynæcological Society, with a preface written by Professor Trélat. In some respects Dr. Olivier's translation is to be commended; where he has followed Dr. Emmet's text it is excellent, and the illustrations have been reproduced with painstaking accuracy. Had the work stopped here the result could only have been to the advantage of the study of gynæcology in France, but the translator, taking Dr. Emmet's work as the basis, has apparently endeavored to produce what, according to his own ideas upon the subject, a text-book of gynæcology should be. Many long quotations from contemporary French and English works appear in brackets, together with much that seems to bear the stamp of no particular authority. In the original no specula are mentioned but Sims's and some of its self-retaining modifications, for Dr. Emmet holds that this instrument alone is of scientific value. In the translation the whole subject is gone over, and nearly every known speculum is pictured and carefully described. In the field of plastic surgery the same faults are noticeable. With regard to the pathology of prolapse of the posterior wall of the vagina, and with regard to so-called laceration of the perinæum and the operation for its proper repair, Dr. Emmet's views have long been radically at variance with those of the majority of writers, and therefore, if they are correct, they render all others untenable. This fact seems to have escaped the translator, for he has described the methods that have been employed since Baker Brown first performed the operation, simply including Emmet's in a list where all are looked upon as about equally good. These illustrations furnish a fair example of the way in which the whole subject has been treated, and make it evident that the real spirit of Dr. Emmet's work has not been appreciated. In this the French version differs widely from the German translation, which is a true reproduction of the original.

THE GENEALOGY OF AN OUTBREAK OF SMALL-POX.

In the Fifth Annual Report of the Provincial Board of Health of Ontario, for the year 1886, a summary of the course of the infection in an outbreak of small-pox, or rather a series of outbreaks, is given in the ingenious form of a genealogical tree. The Michigan State Board of Health has taken the trouble to have copies made of this graphic representation, and it is to that body that we are indebted for an opportunity to examine it. It is a pity to see such a clever piece of work marred by the statement that a certain woman "took sick" on a given date.

PHELPS'S TREATMENT OF CLUB-FOOT.

A method of dealing with certain forms of equino-varus adopted by Dr. A. M. Phelps, of Chateaugay, N. Y., was described by that gentleman in a paper read at the last annual meeting of the Medical Society of the State of New York. At about the same time, in the February number of the "Deutsche Zeitschrift für Chirurgie," Dr. A. Philippson published an interesting account of his experience with Dr. Phelps's operation. The general tenor of the German article was quite favorable to the procedure, and its publication will doubtless serve to heighten the interest with which Dr. Phelps's paper will be read when it appears in the forthcoming volume of the State society's "Transactions."

BLACK TONGUE.

This curious affection, termed *lingua nigra*, or *nigrities linguæ* (the *nigritie de la langue* of the French, the *schwarze Zunge* of the Germans), is described as being due to a deposit of pigment granules in the cells of the epithelial sheaths of the papillæ filiformes. Dessois attributed it to the presence of a micro-organism, the *glossophyton*, but Schech, of Munich, who gives an account of a case recently observed by him, in the "Münchener medicinische Wochenschrift" (summarized in the "Deutsche Medizinal-Zeitung"), failed to find any other organisms than those usually found in the mouth, and therefore avers that the disease is not a mycosis, but simply a papillary hypertrophy with corneification and pigmentation. In his case, the blackness was in the form of fine, hair-like growths, and they gave the patient the sensation of fine hairs on his tongue. Nothing is known of the ætiology of the disease, and its course is erratic; in some cases it disappears in a few months, while in others it lasts from six to twenty years. According to Schech, it should be treated at its onset with bland alkaline washes and mechanical removal of the hair-like outgrowths.

THE COW AS A SOURCE OF SCARLET FEVER.

Unquestionably there is much to be gained by studying any possible connection there may be between man's diseases and those of his brute companions. Such a course has been pursued in and about New York at times during the past few years, especially with reference to scarlet fever, but the public statements made by those who have prosecuted the inquiries do not seem to have excited quite so much attention as might have been expected. Toward the close of the year 1885, Dr. E. Klein, of London, undertook a bacteriological investigation in this direction, and he gives an account of his observations in a paper contributed to the "Proceedings of the Royal Society," vol. xlii, No. 253, containing, among others, the proceedings of the meeting of March 3, 1887. Dr. Klein satisfied himself of the morphological identity of a micrococcus found in the blood of human scarlet-fever patients with that obtained and cultivated from certain cows affected with a similar disease. He also inoculated eight calves with cultivations of the micrococcus of scarlet fever in the human subject, and in all of them a disease was developed that seemed identical, as to both the cutaneous and the visceral lesions, with an affection produced in other calves by inoculation from the cows in question. Dr. Klein thinks it is evident from these observations that the danger of scarlatinal infection from the disease in the cow is real, and that toward the study and careful supervision of this bovine disease all efforts ought to be directed, in order to check the spread of scarlet fever in man, as well as in the interest of agriculturists.

SECONDARY HÆMORRHAGE AFTER TRACHEOTOMY.

Every practitioner is familiar with the danger of immediate hæmorrhage to an embarrassing degree in the operation of opening the trachea, but the occurrence of serious secondary hæmorrhage in tracheotomy cases is rare. Eight years ago, a Turin practitioner, Dr. Fulile, described two fatal cases, in the "Annales des maladies de l'oreille et du larynx," and now Dr. Bouju, a Rouen hospital interne, gives an account of an additional case of death from this cause, in a recent issue of "La Normandie médicale." The patient was a child five years old, affected with diphtheritic croup. On the eleventh day after the operation, when the tube had been removed and the child was in full convalescence, a gush of blood suddenly took place from the mouth, the nose, and the tracheal opening, and in two minutes death occurred. It was found at the autopsy that the end of the cannula had caused ulceration, and that the ulcerative process had finally opened into the innominate artery. The lesson drawn from the case by Dr. Bouju is that the incision was made at too low a point.

THE AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

Two of our English contemporaries, the "Lancet" and the "British Medical Journal," have published facetious paragraphs concerning this new society. There is nothing remarkable in that mere fact, but it does strike us as a little odd that both journals should have hit upon the same heading for their irony—that of "Specialism in Excelsis." Can this mean that both drew their inspiration from the same source?

A QUERY CONCERNING ETHER.

In a recent number of the "Lancet," Mr. John W. Teale, of Scarborough, gives the notes of an interesting case of illness in which coprostasis seems to have played an important part. The patient was an elderly lady who, when she was brought to Mr. Teale for treatment, was so sick and weak that, although he appreciated the vital necessity of evacuating the rectum, he feared to undertake any operative procedure to that end, lest she might sink under it. Therefore temporizing measures were resorted to. They proved ineffectual, and the lady was seized with apoplexy. Mr. Teale took advantage of the insensibility incident to the apoplectic state to stretch the sphincter, which was exceedingly tight. This had the happy result of at once eliminating the element of coprostasis, and, although the lady continued to be desperately ill for a considerable time, with marked albuminuria among other grave symptoms, and died in rather less than a year, that of prolonging her life to that extent and making her comparatively comfortable. The query that suggests itself to us is, could this patient not have borne anæsthetization with ether (an anæsthetic still too little used in Europe) better than she bore an attack of apoplexy. It would be interesting, too, to know whether, in case such anæsthetization had been resorted to, the albuminuria subsequently discovered would have been imputed to the ether.

THE PLASTERING OF FRENCH WINES.

We regret to see that the French Government seems almost as subservient to the clamors of tradesmen now as it lately was when, at the behest of French hog-raisers, it prohibited the importation of American pork. Ever since 1879, an effort has been carried on among the hygienists of France to secure the enforcement of the regulation forbidding the sale of wine containing more than two grammes of potassium sulphate to the litre, but, except for a brief period at first, the Government has pursued a policy of inaction, professing that more positive evidence as to the detrimental effect of plastered wine ought to be in its hands before it could justly embarrass the wine trade. The absurdity of the position thus taken has lately been shown anew by M. Marty, in an essay which, as we are glad to learn from the "Gazette hebdomadaire de médecine et de chirurgie," enlisted the full sympathy of the *Académie de médecine.* In view of the pork precedent, ought we to tolerate much more delay on the part of the French Government before prohibiting the importation of plastered wine?

BERGEON'S TREATMENT OF PHTHISIS.

Among the current reports as to the efficiency of Bergeon's plan of treating phthisis by means of gaseous enemata, we notice a very positive expression of opinion by Dr. J. G. Sinclair Coghill, of Ventnor, Isle of Wight, published in the "British Medical Journal." Dr. Coghill says that he has used the method with most encouraging results, and considers it by far the greatest advance ever made in the therapeutics of pulmonary diseases.

A BENEFICENT ATTACK OF PYÆMIA.

The "Gazette hebdomadaire de médecine et de chirurgie" gives an interesting summary of a case that was observed at the Königsberg Klinik, and reported in the "Archiv für klinische Chirurgie." The patient was a young woman who had a large melanotic sarcoma of the thigh of three years' standing, which had made rapid progress under domestic treatment, and was accompanied with glandular enlargement. An operation for the removal of the growth was undertaken, but its ramifications were found to be so deep that some parts of the neoplasm could not be reached. The skin sloughed, and then pyæmic symptoms appeared, but the patient survived the attack, and the wound finally healed. This was in 1883. In June, 1886, she was seen again, and found to be pregnant and in excellent health. The attack of pyæmia is credited with having led to the absorption of the sarcoma.

THE GOVERNMENT HEALTH REPORTS.

Ever since their first appearance, we have regularly published Surgeon-General Hamilton's summary of consular and other foreign health reports, except on a few occasions when they have failed to reach us in time. We quite agree with a Washington correspondent of the "New York Times" in the suggestion that these excellent reports could be supplemented to advantage by similar data from various localities in our own country, and we will add that, in our opinion, the Government would be doing a public service by extending the scope of Dr. Hamilton's work in this direction.

THE OPHTHALMOLOGIST'S QUANDARY.

Mr. Christopher S. Jeaffreson closes a clinical lecture on gunshot wounds of the eye, published in the "Lancet," with a discussion of the comparative merits of various operations for removing an eye that has been so seriously damaged as to be useless, or for rendering it inoffensive—with how much satisfaction, may be inferred from his thus parodying the school-boy rhyme:

> "Exenteration is vexation,
> Abscission is as bad,
> Neurotomy won't do me,
> Though extraction drives me mad."

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 31, 1887:

DISEASES.	Week ending May 24.		Week ending May 31.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	0	0	0
Typhoid fever	10	3	8	4
Scarlet fever	62	9	64	15
Cerebro-spinal meningitis	5	5	4	4
Measles	49	12	65	7
Diphtheria	110	62	116	45
Small-pox	25	3	11	3

The New York Post-graduate Medical School and Hospital.—Dr. Charles Carroll Lee has been elected a professor of the diseases of women, and Dr. J. R. Nilsen, formerly an associate professor, has also been made a professor in the same branch, succeeding Dr. A. J. C. Skene, resigned. Among the new instructors appointed is Dr. Joseph O'Dwyer. We learn that the last year's sessions have been attended by more than two hundred matriculates, that the hospital has constantly contained an abundance of instructive and serious cases, and that the babies' ward continues to be well supported by benevolent ladies. The summer session begins on the 15th inst.

The New York State Medical Association.—The Third District Branch will hold its third annual meeting at Elmira on Thursday, the 16th inst. The programme is as follows: "The Use of Cold Water as an Antipyretic in Typhoid Fever, with Cases," by Dr. S. P. Allen, of Whitney's Point; "The Clinical Value of Antipyretics," by Dr. Leroy J. Brooks, of Norwich; "Leucocythæmia," by Dr. S. M. Hand, of Norwich; "Treatment of Fracture of the Inferior Maxillary Bone," by Dr. C. W. Brown, of Elmira; "Hernia of the Brain and Fungus Cerebri," by Dr. Elias Lester, of Seneca Falls; "The Prevalence of Insanity and its Relation to Crime," by Dr. Lyman H. Hills, of Cooperstown; "Interesting Results of a Personal Experience in the Surgical Wards of Bellevue Hospital," by Dr. Joseph D. Bryant, of New York; "The Induction of Premature Labor for Puerperal Albuminuria and General Dropsy," by Dr. F. O'Donohue, of Syracuse; "Pelvic Cellulitis," by Dr. M. L. Halbert, of Cincinnatus; "An Unusual Case of Urinary Fistula," by Dr. Nathan Jacobson, of Syracuse; "Uterine Fibroids," by Dr. T. H. Squire, of Elmira; "The Symptoms, Diagnosis, Prognosis, and Treatment of Medullary Cancer," by Dr. Frederick Hyde, of Cortland; "Bergeon's Treatment of Consumption by Gaseous Enemata," by Dr. Frank W. Ross, of Elmira; and "Erythema Nodosum," by Dr. Orson M. Allaben, of Margaretville.

The Massachusetts Medical Society.—The Section in Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Branch, will meet on Wednesday, June 8th. Dr. J. W. Farlow will read a paper on "Cascara Sagrada and its Use in Constipation"; Dr. P. C. Knapp, one on "The Measurement of the Galvanic Current, and some Remarks upon Electrodes"; Dr. F. W. Page will exhibit a gallstone weighing 23 grains, and Dr. A. N. Blodgett will report a case of agoraphobia.

The Health of Boston.—During the week ending Saturday, May 28th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 13 cases and 5 deaths; scarlet fever, 31 cases and 5 deaths; typhoid fever, 38 cases and 6 deaths; measles, 128 cases and 3 deaths. There were also 34 deaths from consumption, 27 from pneumonia, 8 from heart disease, 8 from bronchitis, and 3 from marasmus. The total number of deaths was 186, as against 160 in the corresponding week last year.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 22, 1887, to May 28, 1887:*

Hubbard, V. B., Major and Surgeon. Granted leave of absence for one month, to take effect on or about June 1, 1887. S. O. 119, A. G. O., May 24, 1887.

Elbrey, F. W., Captain and Assistant Surgeon. Found incapacitated for active service by an Army Retiring Board. Sick leave still further extended until further orders on account of disability. S. O. 116, A. G. O., May 20, 1887.

Burton, H. G., Captain and Assistant Surgeon. Granted two months' leave of absence, on surgeon's certificate of disability. S. O. 107, Division of the Atlantic, May 25, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending May 28, 1887:*

Deane, C. W., Passed Assistant Surgeon. Detached from the U. S. Steamer Dale and ordered to the U. S. Naval Hospital, Mare Island.

Harvey, H. P., Surgeon. Orders to the U. S. Steamer Iroquois revoked, and to wait orders.

Dickson, S. H., Passed Assistant Surgeon. Detached from the U. S. Navy-Yard, Washington, D. C., and ordered to the U. S. Steamer Dale.

Waggener, J. R., Surgeon. Detached from the U. S. Steamer Iroquois, and to wait orders.

White, S. Stuart, Assistant Surgeon. Ordered to the Receiving-ship St. Louis, U. S. Navy-Yard, League Island.

Field, Dr. James G. Commissioned an assistant surgeon in the U. S. Navy, May 23, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending May 21, 1887:*

Goldsborough, C. B., Surgeon. Leave of absence extended to June 1st on account of sickness. May 18, 1887.

Guitéras, John, Passed Assistant Surgeon. Granted leave of absence for four days. May 21, 1887.

Armstrong, S. T., Passed Assistant Surgeon. To remain in charge of service at Memphis, Tenn., until further orders. May 21, 1887.

Devan, S. C., Passed Assistant Surgeon. Leave of absence extended thirty days. May 19, 1887.

Carrington, P. M., Assistant Surgeon. Ordered to U. S. Revenue Steamer Rush. May 18, 1887.

Norman, Seaton, Assistant Surgeon. To proceed to Marine Hospital, Baltimore., Md., for temporary duty. May 20, 1887.

Heath, F. C., Assistant Surgeon. Granted leave of absence for thirty days. May 18, 1887.

Woodward, R. M., appointed an Assistant Surgeon May 20, 1887., Assigned to temporary duty at the Marine Hospital, Baltimore, Md. May 21, 1887.

Society Meetings for the Coming Week:

Monday, *June 6th:* Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *June 7th:* American Medical Association (first day—Chicago); Massachusetts Medical Society (first day—Boston); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg Medical Association; Medical Societies of the Counties of Columbia (semi-annual—Chatham); Franklin (semi-annual); Herkimer (annual—Herkimer); Niagara (annual—Lockport); Orange (annual—Goshen); Saratoga (annual); Schoharie (annual); Ulster (annual—Kingston); and Yates (annual), N. Y.; Hudson, N. J. (Jersey City), and Warren, N. J. (annual), County Societies; Androscoggin, Me., County Medical Association.

Wednesday, *June 8th:* American Medical Association (second day); Michigan State Medical Society (first day—Jackson); Massachusetts Medical Society (second day); Rhode Island Medical Society (annual—Providence); New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Societies of the Counties of Albany; Cayuga (annual); Cortland (annual); Dutchess (semi-annual—Poughkeepsie); Montgomery (annual—Fonda), and Middlesex (annual), N. Y.; Philadelphia County Medical Society.

Thursday, *June 9th:* American Medical Association (third day); Michigan State Medical Society (second day); Society of Medical Jurisprudence and State Medicine; New York Laryngological Society; Brooklyn Pathological Society; Medical Society of the County of Cayuga (annual), N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *June 10th:* American Medical Association (fourth day); New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *June 11th:* Obstetrical Society of Boston (private).

OBITUARY NOTES.

Thomas Ryerson, M. D., of Newton, N. J., died on Friday, May 27th, in the sixty-seventh year of his age. The deceased was a graduate of the College of Physicians and Surgeons, of New York, of the class of 1844.

Carl Friedländer, M. D., of Berlin.—An announcement of Professor Friedländer's death is published in the "Deutsche Medizinal-Zeitung" for May 19th. The deceased was chiefly known in this country as the author of an excellent manual on "The Use of the Microscope in Clinical and Pathological Examinations."

Proceedings of Societies.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

(*Concluded from page 608.*)

Idiosyncrasy as Affecting the Specific Treatment of Syphilis.—In a paper with this title Dr. P. A. Morrow, of New York, referred to the ample grounds for ranking mercury and iodide of potassium as "specifics" in the treatment of syphilis, for they attacked the organic lesions and caused them to disappear, as well as the functional disturbances. Experience showed, however, that their specific action was by no means constant and infallible, and all syphilitics were not equally susceptible to their action. The definite peculiarities of constitution generally comprehended under the term idiosyncrasy exerted a dominant influence in modifying the action of drugs, and that of specific remedies was especially subordinate to conditions of aptitude inherent in the individual. In relation to mercury and iodide of potassium, idiosyncrasy might be manifested in various modes and degrees of intensity: 1. In an abnormal susceptibility to their physiological or toxic effects. 2. In the production of incidental ill effects, which might be associated with a drug's physiological action, or might take the place of it, constituting an aberration of its typical mode of action. 3. In an insensibility of the system, or its failure to respond to the curative action of these drugs. Various clinical illustrations of these propositions were given, and the author closed with the suggestion that the significance of idiosyncrasy in therapeutics had not received from specialists the consideration that it deserved.

Oil of Wintergreen in the Treatment of Gonorrhœal Rheumatism.—Dr. R. W. Taylor, of New York, read a paper on this subject. (See page 617.)

The Treatment of Late Neoplasms of Syphilis.—Dr. Algernon S. Garnett's paper on this subject was read by the secretary. The author did not regard syphilis as a benign disease at all—one having a tendency to self-limitation. The benignancy of to-day was the ataxia of to-morrow. The treatment to which he called attention was that by mercury and the iodide of potassium, and these he continued to give in very large doses. If necessary, tolerance of the drug should be cultivated. No fixed rules should be made for the dosage; it should vary according to circumstances.

Temporary Overstrain of the Bladder producing Chronic Retention of Urine.—Dr. F. N. Otis, of New York, introduced his subject by defining the usual causes and varieties of atony of the bladder. He called special attention to that form recognized as occasionally resulting from sudden overstrain by reason even of a single attack of retention, particularly when it occurred independently of any organic obstruction, but probably as a result of reflex irritation caused by a contracted meatus urinarius or a urethral stricture of large caliber. Such reflex trouble might, however, arise from the irritation of hæmorrhoids, or it might be caused by temporary loss of consciousness or any nervous shock, or by sexual excess. However caused, he maintained that a single retention of urine might, within a few hours, produce such an overstrain of the muscular structures of the bladder as to necessitate, in some cases, the use of the catheter during the remainder of the patient's life. Several cases were cited in proof of the occurrence of acute retention from reflex causes which were promptly and permanently relieved by division of a urethral contraction. In none of these was there any prostatic enlargement, any close stricture, or any general atony of the bladder. From this fact it was assumed that the overstrain had been local, chiefly in that portion concerned in opening the vesical orifice. The portion thus weakened was unable to overcome the resistance of the muscular structure of the so-called vesical sphincter. The most salient points of the paper were: 1. The importance of recognizing the influence of even slight urethral stricture in producing sudden retention of urine. 2. The importance of early recognition and relief of such retention by catheter, and in this connection the author advised against a too rapid emptying of the bladder, and stated that by a gradual withdrawal of the urine the dangers of syncope, hæmorrhage, and cystitis were to a great extent avoided. 3. The fact that a localized atony of the bladder might be present in sufficient degree to prevent voluntary urination while the contractile power of the superior portion of the organ remained practically undiminished. 4. Failure to restore the urinary function in such cases by other measures suggested a possible cure, even in long-standing cases, by incision of the vesical neck.

Early Syphilitic Epididymitis.—Dr. J. N. Hyde, of Chicago, read a paper, and cited cases with a view to presenting the negative side of the subject. He thought the following propositions were based on clinical facts: 1. A man might suffer from a blennorrhagic epididymitis on one side, subsequently contract syphilis, yet escape syphilitic involvement of the epididymis. 2. He might suffer from blennorrhagic epididymitis involving first one organ then the other, finally get syphilis, and escape syphilitic epididymitis. 3. He might suffer from blennorrhagic epididymitis of one or both organs, become so irritable as to exhibit by inflammatory accidents sympathy with successive blennorrhœic attacks, yet throughout a final syphilis betray no sensitiveness to the last-named disease. 4. One affected at the same time with syphilis and blennorrhœa might suffer from an epididymitis evidently a complication of the last-named disease, and yet escape syphilitic involvement of the organ. 5. He might suffer from tuberculosis and subsequently incur syphilis, yet the epididymis escape involvement. 6. One who had suffered from repeated attacks of blennorrhœa, and that lately, might exhibit a typical form of early syphilitic epididymitis.

Prostatotomy for Obstruction.—Dr. A. T. Cabot, of Boston, reported two cases. In one the patient had had cystitis for five years. Two years previously the author had performed litholapaxy, removing a phosphatic stone. The patient's difficulty with micturition became so great that he could pass his urine only in the crouching posture, and with great force in straining. When the prostate was examined the obstruction was found in the shape of a narrow bar. Although the obstruction was so great, the bladder was still able to empty itself almost completely. The author ascribed the subsequent incontinence to this hypertrophied condition of the bladder, which was sufficient to overcome the constrictor muscle weakened as a result of the incision into the membranous urethra. He queried whether in a case like this, with good evidence of an hypertrophied bladder, and in which the obstruction was a narrow bar, the internal prostatotomy of Mercier might not prove the better operation. In the other case the operation was followed by almost complete recovery of the function of the bladder; litholapaxy had previously been done.

The Use of Nitrate of Silver in the Deep Urethra.—The President showed an instrument for injecting the deep urethra, which he believed was more suitable and more serviceable than other syringes now in general use. His method was to deposit from three to five minims of a watery solution of the nitrate, of a strength varying from one to forty-eight grains to the ounce, very accurately in the center of the membranous urethra, by the use of an instrument open at its tip. He thought the method unsuitable in cases of cancer, tubercle, or considerable circum-urethral inflammation, but most beneficial in inflammatory and neurotic surface disturbances of the deep urethra and the neck of the bladder. He gave illustrative cases of the cure of gonorrhœal cystitis, relapsing epididymitis, vesical irritability, prostatorrhœa, etc.

Dr. J. H. BRINTON had employed injections of nitrate of silver in the deep urethra with marked success. Discomfort or pain was readily allayed by allowing a small stream of water to flow over the corona glandis.

A Rare Form of Septicæmia after Urethrotomy.—Dr. TAYLOR read a paper on a rare form of septicæmia (*septicémie foudroyante gazeuse*) following internal urethrotomy. In 1878 a physician performed this operation, and the author was called to the case in consultation. The patient was a perfectly healthy man, twenty-eight years old, who had a tight stricture at the bulbo-membranous junction, which was incised by means of Maisonneuve's instrument, the operation being performed with all care. Within twenty-four hours, severe pain attacked the perineal region, and soon a reddish, boggy appearance was observed. Then the inflammatory action extended and presented marked features. The integument became œdematous, and a distinct emphysematous crackling was felt when pressure was made on the parts. As this rapidly extended, large brown patches developed on the skin and felt as hard as the rind of ham. Besides these, there were large ecchymotic spots and deep blue-black lines caused by congestion and distension of the veins. This condition extended over the whole body, which during life was much enlarged by the œdema and by the gas in the subcutaneous tissue, and after death became rapidly swollen beyond recognition, being of fully twice its natural size, and was a deep-purple gangrenous mass covered with large bullæ and emitting a horrible stench. Death took place eighty-seven hours after the operation. The symptoms were rapidity of the pulse, tumultuous action of the heart, progressive and distressing dyspnœa, intense restlessness, utter agony, and despair. The temperature at first rose, and then fell below normal. Such a disease had not been accurately known until 1870, although many cases of it had been reported, particularly as occurring in armies and navies and in crowded hospitals. Most of them had been epidemic, but few sporadic cases, like the one just reported, having been put on record, and in general the manifestations had occurred on the limbs, especially the legs, and on the trunk after the ablation of tumors. Of the many names that had been proposed, the author preferred Mollière's term, *septicémie foudroyante gazeuse.* By some English authors it was called acute spreading gangrene—too mild a name for such a fulminating malady. Reasons were given in support of the view that the disease was caused by a specific septic microbe. The only treatment was thorough ablation of the part in which the septicæmia began, if that was practicable.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of May 5, 1887.

The President, Dr. THOMAS M. DRYSDALE, in the Chair;
Dr. W. H. H. GITHENS, Secretary.

Placenta Prævia.—Dr. DANIEL LONGAKER said that he desired to reopen the discussion on this subject to submit a few clear and distinct rules of practice in that grave emergency. In a recent debate in this society it had been quite evident that our ideas were not so clear as they should be. One of the methods of treatment, and the best one that had ever been pursued in the appropriate class of cases—a method which would be found the best in the vast majority—had even been regarded with skepticism. He referred to the treatment by means of bimanual version after the manner of Braxton Hicks, a plan by which three operators—Behm, Hoffmeir, and Lomer—had saved ninety-two out of ninety-three patients under their personal care ("Am. Jour. of Obstetrics," December, 1884, p. 1242). He would like to detail briefly his last case. The patient, a multipara, aged twenty-eight, had called him at 4 P. M., April 19, 1887. The anticipated date of confinement was one month later. Eight days before date she had had a trifling loss of blood, but had not sent for him. He was called because of a sudden hæmorrhage coming on without pain while she was walking across the room. It was difficult to estimate the quantity of blood lost—it was not more than half a pint. Arriving a half hour later, he found that the os admitted barely two fingers. The placenta was on the right side at the margin of the internal os; a slight flow of blood continued; she had had a few pains in the hypogastrium. Bimanual version was at once decided upon; two fingers of the right hand in the vagina pushed up the head, while the left depressed the breech down toward the right side. As soon as the head was above the linea terminalis the right hand also manipulated from the outside, raising the anterior shoulder toward the left hypochondrium, the left hand constantly manipulating the breech toward the pelvic brim. As soon as version was completed the two fingers of the right hand were introduced into the vagina and the membranes ruptured at the margin of the placenta. A leg was ready to drop into reach of the index finger; it was brought out, displacement of the cord being carefully avoided. The delivery was left to the natural efforts up to the expulsion of the shoulders. The arms were extended, and were easily brought down, and the head was quickly extracted. Hæmorrhage was practically absent after the leg had tamponed the dilating cervix. The child cried almost immediately and had since thriven remarkably. There was slight post-partum hæmorrhage, but not a single unfavorable symptom, and the mother was about on the ninth day feeling perfectly well. No anæsthetic was used, and, as illustrating the ease with which turning by the bimanual method might be done, he might say that the patient did not know this had been done. In order that our ideas might be as definite as possible, the speaker would emphasize the points made in narrating the history of the case by a few quotations from Lomer's valuable contribution: 1st. "Turn by the bimanual method as soon as possible." 2d. "Pull down the leg and tampon the ruptured vessels of the placenta with it and the breech of the child." 3d. "Do not extract the child then." 4th. "Do away with the plug as much as possible. It favors infection and valuable time is lost by its application." 5th. "Do not wait to turn until the cervix and os are sufficiently dilated to allow the hand to pass." 6th. "Turn as soon as you can pass one or two fingers through the cervix." 7th. "Use chloroform freely." 8th. "Rupture the membranes at the margin of the placenta. If this is not feasible, perforate the placenta." 9th. "The next part of the treatment is expectant. Experience shows that flooding ceases." So long as these results remain unsurpassed by those of any other plan of treatment in the hands of different operators, were we not morally bound to accept these teachings? In large numbers (*op. cit.*) of cases, collected by Charpentier, Depaul, Simpson, Schwarz, Trask, Müller, and King, we had a maternal mortality ranging from 35 to 22·5 per cent., and in the hands of single (*op. cit.*) operators, Spiegelberg, Barnes, Hecker, Müller, and Murphy, a mortality ranging from 16 per cent. to *nil* in the cases of Müller and Murphy. It was also to be feared that harm might have been done by the vigorous defense of the tampon, and that there might be danger of going back to the old bad record. While it might, though rarely, serve a useful purpose in controlling a hæmorrhage, it was a dangerous agent and one that could nearly always be superseded by the natural and safe tampon formed by the *leg and breech of the child.* The speaker could not better illustrate this than by a brief reference to one of the tampon's victims: A patient was tamponed, and when the os had been dilated she was delivered of a dead baby with the forceps. The record said she had died one week after delivery of septicæmia. Another died six days after version, and presumably immediate extraction, for the autopsy showed rupture of the inferior segment of the uterus. His own record was seven cases; all the mothers saved and three of the children. He wished to plead finally the ease of performing the operation, the necessity for action in the face of hæmorrhage, and the efficiency of this natural tampon.

Hydramnion; Malformation of the Fœtus.—Dr. Longaker also said that the history of the following case, with a description of the peculiarities presented by the fœtus, was submitted in the hope of contributing something to our knowledge of a disease the pathology of which was still involved in some obscurity. On January 1, 1887, Dr. E. I. Santee had requested the speaker to see with him Mrs. R., who had supposed herself seven months advanced in her fourth pregnancy. She had always enjoyed good health. In her former pregnancies she had been delivered at term without complication. There had been no symptoms to call attention to any unusual condition until three weeks before the date of his visit. Her symptoms at that time were attributed to impending miscarriage. She complained of pain, especially in the umbilical and epigastric regions. This pain was much worse at night, so that large doses of opiates were demanded. He found her confined to bed; pulse and respiration normal; temperature subnormal, 97·5° at 4 P. M. Her abdomen was uniformly enlarged from the pubes to the ensiform cartilage, the girth at the umbilicus being 37 inches. Percussion showed resonance in the flanks, and fluctuation was quite distinct. On careful palpation, no trace of the fœtus could be found. No fœtal movements were noted, nor any fœtal heart-sounds. She had not felt life for four days. The uterine walls were firm and unyielding. The supra-pubic region was œdematous. Examination *per vaginam* revealed the cervix intact and the os externum patulous. The internal os admitted the index finger. Immediately over this was felt the tense amnion; it conveyed the impression of the membrane during a labor-pain. The diagnosis of hydramnion was concurred in, and it was concluded that, in the absence of symptoms of an urgent nature, it was best to treat the case expectantly. Three days later pains set in actively. The amount of fluid was large. It was estimated as certainly more than a gallon. Some inertia followed its discharge, for which ergot was given. The feet presented. Powerful traction was necessary, and extraction was accomplished only after the spinal column had parted. Convalescence was slow, but recovery was finally complete. The fœtus, of six months and a half, was 34 ctm. long, and weighed 1,500 grms. The epidermis was macerated, and partially peeled off on the extremities. The neck was the seat of a tumor, fluctuating in the greater part of its extent, of the size of an average full-term fœtal head. It involved the anterior and lateral aspects, and extended from mastoid to mastoid, and, with the head in a position of moderate extension, it reached from the border of the inferior maxilla to the ensiform cartilage. The integument over the swelling was thin and almost semi-transparent. The entire head was œdematous, the swelling, however, being most marked over the frontal and facial region. Ossification of the two halves of the inferior maxilla was imperfect. On section, the pleural, pericardial, and peritoneal cavities were found moderately distended with serum of a faint-red color. The heart was greatly hypertrophied. It was of fully twice the size of that of a normal fœtus of a corresponding period of development. The kidneys and supra-renal capsules were normal. No abnormity was found in the remaining abdominal and thoracic organs. The stump of the umbilical cord was œdematous. The placenta could not be examined, as it had immediately been thrown away by the nurse. The spinal column was severed in the cervical region. The trachea, œsophagus, and vessels were also torn across. The head was attached to the trunk solely by the integument and muscles of the neck on its anterior aspect. A portion of the brain-like mass of the tumor had escaped through this laceration. The large vessels passed through the mass. Dr. W. J. Haehnlen, who kindly examined the specimen, reported that it was a myxoma. There could be no doubt that in this case the excessive amount of fluid was of fœtal origin. It was greatly to be regretted that the placenta could not be examined. The hypertrophy of the heart was due to the pressure exerted on the great vessels of the neck by the tumor. In like manner this had interfered with the return current of blood, and hence the œdema. The same condition must have existed throughout the entire venous system. Increased pressure existed in the umbilical vein, and hence transudation into the amniotic cavity by the capillary network of Jungbluth, which had been shown to be persistent at term in hydramnion (Lusk, "Science and Art of Midwifery," p. 288). It was also known that an increase of pressure in the umbilical vein caused a rapid transudation into the cavity of the amnion (*op. cit.*). It was worthy of note that the kidneys were not hypertrophied, and that there was no indication of increase of functional activity in distension of the bladder. The œdematous condition of the cord might also be regarded as significant of increased pressure in the umbilical vein. This increased pressure, primarily due to embarrassment of the heart, must be regarded as the direct cause of the rapid and abnormal accumulation of fluid in the cavity of the amnion. Dr. Robert T. Wilson ("A Contribution to the History of Hydramnios," "Am. Jour. of Obst.," January, 1887) had recently given an interesting *résumé* of this subject. His case was of peculiar value in so far as it enabled us to determine the mooted point of maternal origin in some of these cases. A careful dissection of the fœtus by Professor Welch failed to reveal any abnormity. The enormous amount of seven gallons of fluid had accumulated.

Dr. Kelly was glad that some of our countrymen had at last taken up this interesting subject in a scientific manner, pregnant as it was with important issues on other questions. The admirable paper of Dr. Wilson, of Baltimore, deserved special mention. There was no doubt concerning the correctness of Dr. Longaker's view, that the associated hydramnios had been due to the hypertrophy of the heart, which in turn had depended upon the pressure of the tumor upon the large vessels of the neck. The possibility of transudation from the cord and the placental surface under such mechanical conditions had been abundantly proved. The most interesting cases were such as had been recorded by Schatz and Küstner, in which the hydramniotic twin had been shown to have a heart enlarged by keeping up the anastomotic circulation with the weaker twin.

Axis-Traction Forceps.—Dr. B. C. Hirst exhibited the forceps of von Hecker, used in the Frauenklinik at Munich. The Poullet attachment had been added to the original forceps.

Dr. Longaker remarked that the idea of making traction by means of tapes attached through perforations of the blades was suggested by Chassaigny, of Lyons, as early as 1865.

Dr. Kelly was pleased with the forceps of von Hecker, and considered it better adapted to the Poullet tractor than the

Hodge or any straight forceps. The very fact of attempting to use a long, straight forceps was an attempt to realize thus, in some measure, an axis traction (according to the present use of the term, which meant a direct pull). The Poullet forceps which Dr. Kelly had previously exhibited was not, as stated by Dr. Longaker, a modified Chassaigny, but combined ideas developed by Hubert, of Louvain, and Chassaigny. The former had shown the necessity of pulling in the axis of the pelvis to make a traction which would be at the same time effective and non-injurious to the mother, while Chassaigny had drawn special attention to the importance of grasping the child's head in such a way that the pull came as nearly as possible in the center of the figure of the child's head. The speaker had within a week used the Poullet forceps in the following interesting case: Mrs. K. had a justo-minor pelvis. She had been delivered about two years before by her present physician, a skilled accoucheur, of an average child with the forceps. This time, however, the physician had made long unsuccessful attempts with a long Simpson forceps, when he called the speaker, declaring that the head was locked at the brim, and that it was utterly useless to try to move it with any ordinary instrument. At his request the speaker applied his Poullet-Levret forceps with the woman lying on her back. The Levret blades were simply adjusted to the head, which was engaged at the brim, completely flexed. The first few tractions on the bar seemed to make slight but distinct progress. The head under the following traction efforts moved steadily, slowly, and quietly down the axis of the pelvis, rotating, and, although large, emerged at the outlet. No fixation lock or screw was used to compress the head. It took a long time to release the body, but finally a male weighing 13½ pounds, measuring 60 ctm. in length, and with a head 47½ × 37 ctm. in its largest circumference, was extracted. The child was profoundly asphyxiated, but revived under syringing and douching. This case was but a type of many, some of which he had announced to the society, in which the Poullet-Levret forceps had done him such excellent service. He now used no other instrument.

Abscess of the Ovary, with Pyosalpinx.—Dr. J. M. Baldy related the following history: A woman, thirty-one years old, married thirteen years, five children, one miscarriage, always healthy, and menses regular before marriage. Had a good "getting-up" from all her labors, excepting the last, which had occurred seven years ago. She gave a history of some inflammatory trouble at that time, which had kept her in bed for some weeks. She had since bled irregularly and profusely. She had had constant pain in her abdomen whenever receiving a slight jar, or when long on her feet, as well as on coition. Her general health had been poor, and she had lost considerable flesh. The speaker was called to attend her on the 31st of March, and found her on her back, suffering with general abdominal pain; constipation; tender, swollen, and tympanitic abdomen. She had been sick for a month, and had been getting gradually worse. An examination *per vaginam* showed the uterus in good position, normal in size, with a mass running from the right corner to the pelvic wall; the mass was larger than the fundus uteri, and firmly bound down; painful on pressure. The pulse was 120°, and the temperature high. As she did not improve under general treatment, abdominal section was performed April 4th. The left tube and ovary were found healthy; the right tube and ovary were removed. The ovary contained an ounce or more of pus, and the tube was distended with pus. Adhesions were general. The mass was adherent to absolutely everything within reach, and, as was seen by the specimen, there was hardly a spot on it free from these strong adhesions. Monsel's solution was used to check bleeding from points of adhesion to intestines, and a glass drainage-tube was put in. After the third day there was a free discharge of pus from the tube, and the abdominal cavity was thoroughly washed out four times a day with boiled water. The pulse fell below 100, and the temperature was lowered, and neither exceeded this point subsequently. The tube was removed by the fourteenth day, and the patient made a good recovery, not only from the operation, but from all her old troubles. Her pulse and temperature were normal; her pains had disappeared entirely, her peritonitis was cured, her menses had appeared at their proper time and in proper quantity, and she was rapidly gaining her lost flesh. The result had been altogether most gratifying. The case was of particular interest, inasmuch as it illustrated very well the class of inflammatory tubal troubles arising from the puerperal state to which the speaker had called the attention of the society the month before. The origin was clearly septic, and not traumatic. These women got along apparently well for a few days after delivery, and then suddenly began to develop alarming symptoms. The fact of the delay in the development of trouble was a clear proof that it was non-traumatic and threw all the evidence in favor of the septic origin, and then the micro-organisms of puerperal septicæmia had been found in these cases. This particular case was clearly one of this character. The patient had been perfectly well until her last labor; she then developed inflammatory trouble a few days after the labor, and had been a sick woman ever since. There was, so far as could be ascertained, no history of gonorrhœa in her case, and he would say from his knowledge of the woman that her statements were to be absolutely believed so far as she herself knew.

A New Leg-holder.—Dr. McBride exhibited a new *Beinhalter* [a description of which was given in our issue for May 28th, on page 614].

Dr. Kelly said that this apparatus was an excellent substitute for the heavier, more clumsy, and expensive ones commonly used. He then exhibited his own, which he considered attained the same ends even to a greater degree of perfection. It consisted simply of two collars of muslin padded with hair-cloth, which fitted the thighs close to the knees. Through these collars passed a broad muslin strap, also well padded, which was provided with a snap-hook at each end. The snap was caught in a ring on one collar placed under the knee, and the strap was then brought under one arm, around the back of the neck, and down over the other shoulder, and the other end snapped in the opposite collar, also in place above the knee. The distance from knee to knee, by this course, when properly flexed on the abdomen for operation, was twenty inches or less. A simple device of rings on the inside of the strap allowed of still further shortening. The speaker did not consider the cross-bar between the knees at all necessary. His *Beinhalter* could be carried in the pocket. He described that of Clover; also gave blackboard illustrations of Fritsch's, Gendny's, and Sänger's. Most of those in use in Germany, while convenient in a large clinic, were too clumsy to be carried about. Sänger's was by far the simplest and most convenient for general use.

Dr. Parish agreed that a *Beinhalter* was desirable, and described one that he used that was attached below the knee.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of March 18, 1887.

The President, Dr. William Wallace, in the Chair;
Dr. C. E. De la Vergne, Secretary.

Intubation of the Larynx.—A paper on this subject was read by Dr. George McNaughton. [See page 624.]

Dr. Sherwell said that he had been much interested in the paper, and in the successful demonstration on the cadaver by the author. He had also had the pleasure of seeing the procedure demonstrated by the originator of the method and instruments at a recent meeting of a New York medical society, and he believed no one there could have failed to note the modesty, as well as the earnestness, with which his arguments in favor of it had been brought forward. Dr. O'Dwyer had, however, at that time personally disclaimed any idea of this method supplanting tracheotomy in the cases in which the operation was most frequently needed—*i. e.*, dipththeria and croup; but favored the idea that each was supplementary to the other, in which, the speaker believed, he was quite right. Dr. McNaughton had advanced all the arguments *pro* in an entirely reasonable way; but the speaker was unable to believe that the percentage given of recoveries by that method was entirely just, as he thought it was reasonable to believe that this procedure had sometimes been adopted when the necessity did not exist; for instance, the parents' consent, as the doctor had stated, was for obvious reasons so readily obtained, etc. This was in one way one of the strongest arguments for O'Dwyer's method, as it seemed to him. It would, however, sometimes result in an unnecessary operation. While the speaker had had no personal opportunity of employing intubation, he had had a fair amount of experience in tracheotomy in children, and this experience had been in the "late operation," so called, when the child was "in articulo mortis" or thereabout, one actually dying on the table. Still, the number of successful cases had been in his hands four, in a total of fifteen operations, which compared favorably with the percentages given in Dr. McNaughton's paper by this other method. He thought, too, that the dangers of occlusion of the tube were great, though he was glad to be assured by Dr. Dillon Brown that they were less than seemed probable. The relative ease of cleaning the tracheotomy-tube with a feather, etc., was decidedly an advantage. He had spoken of his own success in tracheotomy, but that was generally excelled nowadays, and 33 per cent. was often given as a ratio, in the last few years at any rate—among others, by Dr. A. R. Robinson, of New York. To conclude as he had commenced, he much desired a favorable issue to this mode of treatment, which, to be fair, was even yet *sub judice*, but could scarcely believe it would take the place in any great degree of the older operation, even though it was so eminently desirable. No one could wish anything else but success to O'Dwyer and his followers. In cases of stenosis of the larynx from syphilis and kindred causes, the speaker believed it to be the ideal instrumental procedure.

Dr. McManus said that he had performed the operation three times, with the result of two deaths and one recovery. The first case was that of a boy aged twenty-two months. An O'Dwyer's tube was introduced and relieved the dyspnœa immediately, but the boy died two hours afterward from heart failure. The second case was that of a girl aged eleven months. She was first attacked with measles, and then developed diphtheria and, finally, diphtheritic croup. The tube was introduced with some difficulty, which at the time he attributed to his own clumsiness in the use of the instrument. The dyspnœa was at once relieved, but she died eleven hours afterward with the tube in her throat. The third case was that of a girl two years and a half old. A sister older and a brother younger had died of diphtheria and diphtheritic croup, respectively, before he was called to her. In this case the tube was introduced with considerable difficulty and only after several trials, each trial causing considerable blood to come away, with some patches of false membrane. The dyspnœa was immediately relieved, and the tube was allowed to remain twenty-four hours, and was kept out for several more hours, when it was reintroduced because the symptoms again seemed to demand it. The time of attendance in this case was two weeks after the first introduction. It was followed by paralysis of the soft palate, and this had caused him to wonder whether the dyspnœa, etc., might not have been caused by some paralysis of the laryngeal muscles, possibly the abductors.

Dr. Wight commended the operation and said, should opportunity offer, he would give it a trial.

Dr. Hunt said that he had spoken to several friends about the operation and had found that they all agreed that there was not so much trouble in introducing the tube as in taking it out. He would like to hear something said about that.

Dr. Charles Jewett said that he had had no experience in this operation. While listening to the reading of the paper, however, it had occurred to him that there was another advantage of intubation over tracheotomy that had not been alluded to in the discussion. The after-care of the case was much simpler. This, in his experience, had proved one of the most troublesome things in tracheotomy and most difficult to accomplish. It had also occurred to him to ask how long the tube was usually left in the larynx, and by what means the time for its removal was determined.

Dr. Dillon Brown said that in discussing the subject of intubation of the larynx it should be remembered that Dr. O'Dwyer had never made extravagant assertions for the operation, but had confined himself as much as possible to a bare statement of the results of his work and observations. After spending five years of hard work in developing and perfecting his idea, he had presented it to the profession along with the results so far obtained, and left them to determine its true value. There had rapidly accumulated such a mass of evidence in its favor, coming as it did from all parts of the country, that its position as a substitute for tracheotomy was well established. However, in cases of doubt, intubation did not prevent a tracheotomy being subsequently performed, but made it easier by giving the operator a guide upon which he could open the trachea quickly and safely. Whatever the final decision might be as to the value of intubation compared with tracheotomy, the former from necessity must have the wider field, because in the vast majority of cases consent of the parents to permit a cutting operation could not be obtained. The coughing excited by swallowing fluids was beneficial, for it not only freed the tube of any accumulations, but, being an expulsive cough, cleared the bronchi. The refusal of patients to take food was due in a certain number of cases not so much to their inability to swallow as to anorexia from nephritis and other complications of the disease. In many cases children refused food before any operation had been done. The most brilliant application of Dr. O'Dwyer's method was in chronic stenosis, and in these cases it would probably take the place of all methods of treatment previously proposed.

Dr. Sherwell asked if it was not easier to practice intubation on the living subject than on the cadaver.

Dr. Brown replied that it was, and, in answer to Dr. Jewett's question as to how long the tube should be left in the larynx and how to determine the proper time for removal, said that this was a matter which must be determined by experience. As long as the patient was doing well, it was better not to remove the tube until the fifth or sixth day. But if there was a return of the dyspnœa, the tube should be immediately taken out to see if it was clear, for in a certain number of cases it was impossible to determine whether the dyspnœa was due to laryngeal obstruction or to extension of the membrane to the bronchi

Dr. Walker asked Dr. Brown if he had ever tried feeding by the nose.

Dr. Brown replied that he had, and in some cases it was necessary. The danger from food getting into the bronchi and causing pneumonia was slight. As a matter of fact, the cause of death in most cases was due to extension of membrane to the bronchi. In thirty-five deaths following intubation, of which he had seen the autopsies, there was not a single case of so-called septic pneumonia, there was never found any trace of food in the bronchi, and there were but few cases of extensive broncho-pneumonia.

Dr. **Rochester** asked what the cause was of its being expelled. Did Dr. Brown ever have the tube spring out as soon as his finger had been removed from it, and how did he account for this?

Dr. **Brown** replied that the tube might have been in the pyriform sinus, or, if in the larynx, the retaining swell of the tube had not been pushed well down below the narrow subglottic region. He had an adult now under treatment for chronic stenosis following tracheotomy, in whom this had occurred by reason of the lower end of the tube catching in the tracheal wound.

Dr. **Thallon** asked what his experience was as to the effect of the tube in causing or preventing the exudation of false membrane.

Dr. **Brown** was unable to say positively what influence the tube exerted in this respect, but he had noticed at autopsies that the pressure of the tube had seemed to cause a diminution of the swelling and exudation.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Some Observations upon the Modern Treatment of Urethritis (read by invitation before the New York Dermatological Society). By George E. Brewer, M. D., Assistant Surgeon to the Out-door Department of Roosevelt Hospital. [Reprinted from the "Journal of Cutaneous and Genito-urinary Diseases."]

Controlling Sex in Generation. The Physical Law influencing Sex in the Embryo of Man and Brute, and its Direction to produce Male or Female Offspring at Will. By Samuel Hough Terry. Second Edition, with an Appendix of Corroborative Proofs. New York: Fowler & Wells Co., 1887. Pp. 5 to 209.

Elementary Microscopical Technology. A Manual for Students of Microscopy, in Three Parts. Part I. The Technical History of a Slide from the Crude Materials to the Finished Mount. By Frank L. James, Ph. D., M. D., etc. St. Louis, Mo.: St. Louis Medical and Surgical Journal Company, 1887. Pp. iv–7 to 107.

Public Health. The Lomb Prize Essays. Award made at the Thirteenth Annual Meeting of the American Public Health Association, Washington, D. C., December 10, 1885. With an Appendix. Second Edition. Concord, N. H.: Republican Press Association, 1886. Pp. 198.

A Case of Nephrolithotomy during the Fifth Month of Pregnancy. By Louis McLane Tiffany, M. D., Professor of Surgery in the University of Maryland. [Reprinted from the "Medical News."]

Sur un nouveau traitement de la métrite chronique et en particulier de l'endométrite par la galvano-caustique chimique intra-utérine. Par le Dr. G. Apostoli, Professeur libre de gynécologie et d'électrothérapie à l'école pratique, etc. Avec 9 figures dans le texte. Paris: Octave Doin, 1887. Pp. 68.

Baldness. What can we do for it? By George Thomas Jackson, M. D., Assistant Visiting Physician to the New York Skin and Cancer Hospital, etc. [Reprinted from the "Medical Record."]

A Further Study of the Therapeutic Value of Oxygen, with Cases Treated. By Samuel S. Wallian, A. M., M. D., New York. [Reprinted from the "Journal of the American Medical Association."]

Differentialdiagnose der verschiedenen syphilitischen Geschwüre. Von Prof. Dr. Gustav Wertheim, k. k. Primararzt an der "Rudolf-Stiftung" in Wien.

Reports on the Progress of Medicine.

NEUROLOGY.

By J. LEONARD CORNING, M. D.

Insanity Among the Chinese of the United States.—Wilkins ("American Journal of Insanity") draws attention to the considerable proportion of insane Chinamen in California. As to the belief that there is little or no insanity in China, Dr. Wilkins states that he has been informed by natives of that country that when a man becomes insane he is placed in solitary confinement and eventually dies. From his own observations, however, the writer is led to believe that the proportion of Chinamen who become insane is not so great as that of other nationalities. This comparative immunity he ascribes more particularly to the fact that they eat rice and unstimulating food, and also somewhat to their stolidity of temperament. So far as he was able to observe, there was nothing peculiar about the forms of mental derangement encountered among the Chinese; they were afflicted with melancholia, mania, and dementia, much in the same proportion as European nations.

Drumine ("Australian Medical Gazette"), the new local anæsthetic, has been obtained from the *Euphorbium Drummondii* by Dr. John Reid in the following manner: A tincture is made with rectified spirit. After standing a few days, it is evaporated so as to be rid of the spirit; ammonia is added in excess, and the solution is then filtered. The residue, after the ammonia smell is gone, is dissolved in dilute hydrochloric acid, and the filtrate is filtered through animal charcoal to destroy the coloring matter. The filtrate is evaporated slowly, and leaves the alkaloid. It gives a colorless solution with very little taste, is almost insoluble in ether, but freely soluble in water and chloroform. The crystals are colorless and frequently stellate in form. By dropping the solution upon the conjunctiva of the cat, the latter soon became insensible. A like effect was observed when the medicament was placed in the nostrils or upon the tongue. Dr. Reid has employed the remedy in sciatica and other painful conditions with good results. A more thorough investigation of this substance is greatly to be desired. We, ourselves, have sought to obtain it, but without result.

Descending Degeneration of the Brain and Cord.—Bianchi and d'Abundo ("Neurologisches Centralblatt") have made an interesting series of experiments with a view to ascertaining the course followed by the degenerated fasciculi after removal of various zones of the cortical substance. Thus, after removal of the gyrus sigmoides, permanent changes (paresis, contracture) of the limbs of the opposite side were observed, as well as protracted derangements of sight (hemiopia lateralis homonyma). On the other hand, no disturbances of cutaneous sensibility were noted. Again, the intellectual life of the animals (dogs) remains apparently unimpaired; they retain their instincts as before, exhibiting vivacity, acuteness, and affection. Nutrition remains in an excellent state of efficiency; the animals increase in full measure, but their offspring are epileptic.

Contribution to the Physiology of the Corpus Striatum.—Baginsky and Lehmann (Virchow's "Archiv für pathologische Anatomie") have conducted an interesting series of experiments with a view to a more exact determination of the functional significance of this important structure. The technique resorted to would seem to possess many advantages. In brief, the process employed was the following: A fine glass cannula was connected with an ordinary water air-pump and those portions of the brain to be extirpated were removed by suction. By gradually removing in this way the greater part of the nucleus caudatus, these investigators ascertained that the consequent modifications in function were merely quantitative in character. The principal phenomena observed were the following: Increased susceptibility of the animals to sensory impressions; tendency to run away with precipitancy, if attempts were made to catch them, but without evidence of any internal motion; a peculiar derangement manifesting itself in anomalous attitudes of the extremities, particularly of the forelegs. When severely irritated, the extremities resumed their normal attitudes. This phenomenon has already been described by Schiff and Nothnagel, and is ascribed by Nothnagel to partial paralysis of the muscular sense. All the phenomena retroceded, but it was observed that the greater the amount of the nucleus removed, the longer the time which elapsed before function was again restored. It was also observed that whenever the anterior portion of the nucleus caudatus was irritated (not destroyed) a rise in temperature took place. A resumption of the normal temperature took place, however, with great rapidity.

New Facts concerning Anæsthesia in Conjunction with Organic Lesions of the Spinal Cord.—The manifold contradictions and doubts which beset the physiology of sensory conduction in the cord are, according to Brown-Séquard ("Compt. rend. hebd. des séances de la soc. de biolog."), to be ascribed to the fact that, when after an operation upon the central nervous system there is cessation of function, it is at once assumed that the conducting paths necessary to such function have been destroyed. According to Brown-Séquard, this is by no means the case, but, on the contrary, the derangement may take place through the agency of "dynamic inhibition," which on its part is to be accounted for on the score of the wounded structure itself or the wounded tissue in its immediate vicinity. Brown-Séquard has proved this experimentally as follows: When, by means of appropriate injury to the cord, anæsthesia of one side of the body and hyperæsthesia are obtained, it is possible by the aid of a second operation to render the anæsthetic side of the body hyperæsthetic, and *vice versa.* This, of course, goes to prove that the anæsthesia is not to be ascribed to destruction of conducting paths. Again, an analogous result may be obtained in a much simpler manner. If, by transverse section of the cord, we cause anæsthesia of the opposite side, it is possible, by powerful faradization of the sciatic nerve, to cause disappearance of the anæsthesia. Powerful thermic and mechanical irritants, as well as careful stretching of the nerve, act in the same manner. When the sensibility of a limb was not entirely destroyed, but only profoundly depressed, Brown-Séquard has succeeded in greatly ameliorating the condition, or even in rendering sensibility quite normal by repeated applications of mechanical stimuli, or the hot iron, to the affected limb.

[These latter phenomena forcibly recall the wonderful benefit frequently observed after applications of Franklinism in cases of hemianæsthesia of hysterical origin.]

Antipyrine in Hemicrania.—Ungar ("Centralblatt für klinische Medicin"), referring to the unsatisfactory condition of the therapeutics of hemicrania, presents his own experience with antipyrine in this affection. He was led to undertake these experiments, not from the inspiration afforded by circuitous reasoning, but rather from a knowledge of the resemblance existing between the effects of salicylate of sodium on the one hand and those of antipyrine on the other. By reason of his own experience as well as that of his colleagues, Ungar feels convinced that antipyrine is not only equal to the remedies heretofore employed in the treatment of hemicrania, but even more certain and rapid in its effects. When taken at the beginning of the attack, antipyrine either causes arrest of the same or diminishes its intensity to a remarkable degree. But even when the symptoms of the attack were fully developed, the exhibition of the drug was sometimes followed by relief. Among the patients who were benefited by the use of antipyrine were some who had previously resorted in vain to all the remedies usually employed in hemicrania. In certain cases, however, antipyrine proved itself to be no more efficacious than other remedies. Ungar was unable to ascertain any particular phenomena by which such cases could be recognized. In the successful cases fifteen grains of the drug were usually given at a dose, and in most cases one such dose was sufficient to produce the desired effect. Unfavorable effects from the use of antipyrine were not observed. The question as to the manner in which the drug produces its favorable effects in hemicrania Ungar does not attempt to answer.

The Electrical Irritability of the Nerves and Muscles of the Newly Born.—Westphal ("Neurolog. Centralblatt") has had the opportunity of making some researches as to the irritability of the brain of a newly born child. The conditions for conducting these experiments were exceptionally favorable, as both hemispheres were free from bone, being merely covered by pia mater. In spite of these favorable circumstances, the result was entirely negative. Westphal, while engaged in these researches, had the opportunity of confirming the observation of Soltmann, that much stronger currents are required to excite the larger peripheral nerves of the new-born than are necessary to the attainment of the same end in adult individuals. The same was also true of the muscles, as well as of the nerves of the face and extremities.

On the Duration of the Period of Incubation in Hydrophobia.—Bauer ("Münchener med. Wochenschrift") has collected and examined a large number of cases of lyssa humana with reference to the duration of the period of incubation. His conclusions are founded upon the analysis of 510 cases. Thus, for male individuals, the average duration of the period of incubation was eighty, and for females sixty-five days. In children the period of incubation is fifty-seven days against from seventy to seventy-five days in the adult. It is probable that the differences in the locality of the wound have something to do with this discrepancy. It is also interesting to note that when the wounds are located about the head or neck the time consumed in the incubation of the disease averages fifty-five days. When, on the other hand, the wound is located upon the lower extremity, seventy-four days are consumed; and when it is situated upon the upper extremity, eighty-one days are required. When the wound is inflicted by a wolf the average duration of the period of incubation is thirty-nine days, when by a dog seventy-three days, and by a cat eighty days. Whatever the form of treatment adopted, no influence upon the duration of this incubatory stage of the affection is to be anticipated.

Remedy for Sleeplessness.—The "Scientific American," referring to an article which recently appeared in an English medical journal, observes that the popular view that noise disturbs sleep, like most popular views, only touches the truth, but does not grasp it. The true cause of disturbance is interruption. Any sudden cessation of the continuity of silence or of sound awakens the sleeper, for sound, provided it is monotonous, has precisely the same effect on the brain as silence. The alarm-clock is based on the theory of interrupting silence. Why might not, therefore, a simple mechanism be devised to act on the same principle, but with the reverse object—to wit, that of insuring sleep by sound? Let such an instrument produce the monotonous buzz of the humming-top, not so loud as to be heard in an adjoining room, but loud enough to drown distinct noises when placed close to the bedside or hung over the pillow.

[In so far as the perpetuation of sleep is concerned, a device of this kind might serve an excellent purpose. The ancient expedient of placing a pendulum-clock in the room of a light sleeper served, although in an imperfect manner, to attain a similar end. The primary motive to physiological sleep we believe, however, must always consist in an exhaustion of the cerebral centers, and particularly of the protoplasm of the cortical cells. The cerebral anæmia and suspension of conscious perception are clearly to be looked upon as secondary to this exhaustion. While, therefore, such an instrument as that above described might have an influence in perpetuating unconsciousness, it could have little effect in the primary induction of sleep.]

Strychnine in Alcoholism.—Parzevski ("Deutsche med. Zeit."), being aware of the favorable results obtained by the internal administration of strychnine in alcoholism, conceived the idea of conducting a series of clinical observations with it when subcutaneously administered. In seven persons the results obtained were gratifying; there was a return of sleep; the appetite increased; the tremor disappeared, and even an antipathy for alcohol was engendered [?].

Mental Disturbances after the Use of Salicyl Preparations.—J. Krueg ("Wiener med. Presse") has made some interesting observations on this subject. When salicylate of sodium is given in repeated large doses for a considerable length of time, a condition of delirium may be engendered, giving rise to extravagant dreams at night and fantastic exaltation of the imagination during the hours of wakefulness. Persons thus afflicted seem, however, quite conscious of their morbid condition, comment upon it, and often ascribe it to the medicine which they have taken. In severe cases the phenomena appear for several days after the medicine has been discontinued. In the cases reported by Krueg, the mental exaltation developed into systematized delusions. Nausea and tinnitus aurium appeared, the patient heard cries and musical sounds, and finally well-marked delusions of persecution were developed, so that it was necessary to place the patient in an institution. Digitalis was prescribed and afforded relief, especially from the tinnitus. The remaining phenomena gradually disappeared.

"Apoplexy" of the Medulla Cervicalis, the Result of a Fall.—The following case, which occurred at the Imperial Hospital in Vienna, presents certain features of interest ("Medicinisch-chirurgisches Centralblatt"): K., a laborer, sixty-four years of age, was admitted on the 28th of June, 1884. On the previous day he had fallen from a wagon, striking upon the neck, and experiencing at the same time vertigo and an involuntary contraction of the legs. In spite of this, he was able to stand up, and was about to pursue his way when he again fell, and was seized with tonic contractions of the upper and lower extremities and severe cervical rigidity. Consciousness was, however, preserved, and there was no impairment either of speech or of facial mobility. Vomiting and dysphagia were absent. An examination revealed weakness of both arms, particularly of the left; voluntary motion was also abolished in the lower extremities, and, when passive movements were attempted, violent resistance was met with on the part of the contracted muscles. Anæsthesia was present in the right leg, and the bladder was paralyzed, so that the daily use of the catheter was necessary. With the exception of some pain in the feet, no other important phenomena were noted. On the 15th of July he was put upon baths and the iodide of potassium. About the beginning of September the patient was much emaciated, and tormented by violent and painful cramps of the extensors, alternating with spasms of the corresponding flexors of the legs. The evacuation of the bladder was accomplished voluntarily. Both arms were weak, and the flexors of the left arm were the seat of spasm. He also complained of a woolly sensation in the right hand. The right leg could be flexed at the knee, but this was impossible in the left. Sensibility seemed to be entirely normal in the legs. The patellar tendon reflex was exaggerated on both sides, and there was likewise clonus of the ankles and knees. The neck was quite mobile and devoid of tenderness. The right knee was swollen. The further progress of the case offers nothing of special interest. The frequent painful spasms in the legs necessitated the copious use of hypodermics of morphine; by degrees the evacuations became wholly involuntary, and on the 2d of January, 1885, death took place.

Besides numerous bed-sores, the autopsy revealed, in the posterior portion of the right lateral column, a spot of softening of about the size of a millet-seed. The softening extended as far as the gray substance, and presented a yellowish-white appearance. A similar though smaller spot of softening was found in the right posterior column. These changes were found at the level of the sixth and seventh cervical vertebræ. Further below, the substance of the lateral and posterior columns was likewise found softened. Minute hæmorrhagic spots were also distributed throughout the extent of the cord.

A Case of Hysterical Dumbness in Man.—Charcot ("Progrès médical") has recorded a case of "mutisme" occurring in a young man thirty-three years of age. Between the ages of twenty-four and thirty this person had suffered from occasional attacks of hystero-epilepsy. Finally, after an attack of laryngitis, with aphonia, he became dumb, but was suddenly cured by the mere application of the laryngoscopic mirror. After the lapse of three weeks the dumbness again returned, this time also consecutively to laryngitis. It is of diagnostic importance that, while unable to articulate, he was still able to express his thoughts in writing without difficulty. Ordinary aphonia from an organic lesion of the brain was thus excluded. Moreover, while he could execute the ordinary movements of the tongue and lips—such as blowing, whistling, and the like—he was quite unable to pronounce a word, either by his own efforts or by imitating the movements of the lips of those about him. These are the manifestations referred to on former occasions by Charcot as being typical of hysterical dumbness. The fact, too, that even whispering was impossible lends strength to the diagnosis.

From all that we are able to learn deductively from cerebral physiology, such an individual is evidently the victim of some phase of functional disturbance, probably cortical.

Influence of the Brain upon Animal Heat.—Girard ("Archives de physiologie") has performed a number of experiments upon dogs and rabbits, from which he concludes that, when the center of the corpus striatum ("calorific region") is excited chemically or mechanically, a rise in temperature is induced. Moreover, he is convinced that the extent of such rise of temperature is in proportion to the duration of the irritation. On the other hand, he has found that like excitation of the cerebral hemispheres does not give rise to a corresponding augmentation of corporeal temperature.

Miscellany.

Small-pox in South Africa.—Small-pox is said to have broken out in the Maclear village location, Cape Town. The medical man who was practicing there is said to have left for the gold fields, and the nearest medical practitioner is about seventy miles distant. The magistrate has taken measures for quarantining patients.—*Brit. Med. Jour.*

The German Universities.—According to the "Revue générale de clinique et de thérapeutique," Dr. Kaltenbach has been nominated professor of obstetrics and gynæcology at Halle; Dr. A. Vogel, director of the pædiatric Poliklinik at Munich; and Dr. K. Rieger, professor of neurology at Würzburg.

The Hopital Saint-Louis.—A library of dermatology and syphilography has been started by the medical staff, and the "Revue générale de clinique et de thérapeutique" announces that gifts of books relating to those branches are asked for.

The Ninth International Medical Congress.—It is announced that a discussion on syphilis and its relations to insanity, to be opened by Dr. George H. Savage, of London, will occupy one of the sessions of the Section in Psychological Medicine and Nervous Diseases, embracing the following divisions: 1. Idiocy, imbecility, and moral perversions due to inherited syphilis. 2. Insanity associated with acute syphilis (*a*) psychical, (*b*) moral. 3. Syphilis producing epilepsy, with or without insanity. 4. Syphilis producing mental weakness, (*a*) with, (*b*) without paralysis. 5. Syphilis as associated with general paralysis of the insane. 6. Pathology, as represented by coarse changes like gummata, or slighter ones as seen in arterial disease. The secretary of the section, Dr. E. D. Ferguson, of Troy, N. Y., requests those who intend to engage in the discussion to send him notice.

The College of Physicians and Surgeons, of Boston, held its sixth annual commencement exercises on Thursday of last week. The degree in medicine was conferred upon eight candidates, three of whom were women. One of the male graduates was a native of Turkey.

THERAPEUTICAL NOTES.

Hydrogen Peroxide in Whooping-cough.—Dr. B. W. Richardson ("Asclepiad"; "Dublin Jour. of Med. Sci.") uses the following formula:

Hydrogen peroxide (10 vols.)	6 drachms;
Glycerin	4 "
Water, to	3 ounces.

Dose, half a fluidounce, in a wineglassful of water, five or six times a day. The author thinks that the peroxide acts like nitric acid, but with more effect, subduing the paroxysms, checking the secretion in the throat, and shortening the course of the disease.

An Enema for the Convulsions of Children.—"Nouveaux remèdes" attributes the following formula to Dr. J. Simon:

Musk	3 grains;
Camphor	15 "
Chloral hydrate	7 "
The yolk of one egg;	
Distilled water	4 ounces.

The rectum is to be emptied by a simple enema before this is injected.

Original Communications.

A STUDY OF CHLOROTIC ANÆMIA,

WITH SPECIAL REFERENCE TO THE CARDIAC AND VASCULAR AUSCULTATORY PHENOMENA.*

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The term "chlorosis" (chloræmia, chloranæmia) has been applied since the time of Hippocrates to a peculiar form of anæmia affecting chiefly young females between the ages of twelve or fifteen and twenty-five. Considered etymologically (Greek, χλωρός, light-green), this appellation is not always correct, as the hue of the skin is by no means a criterion. The term has the sanction of ages, however, and its expunction from the nosology is not to be recommended, although the foregoing fact should not pass unmentioned, as it is apt to be misleading to beginners.†

It is beyond the scope of this contribution to consider in detail the many and diverse problems which have arisen in connection with this strange disease; it is intended rather as a summary of the present state of our knowledge concerning it, together with the presentation of a few practical points gained from personal observations on a considerable number of cases.

Pathology.—Virchow ‡ has attempted to give this disease a distinct anatomical basis founded on a so-called arrest of developmental energy on the part of the circulatory apparatus. In numerous post-mortem examinations of persons who had suffered from chlorosis during life he found that the heart and great arteries were in a state of hypoplasia or imperfect development. For example, the aorta in full-grown women was sometimes almost infantile, being so small as not to admit the little finger. In addition, the caliber of all the larger arteries was diminished and their coats were much thinner than in healthy persons, and degenerative changes in the intima were frequent. Exceptionally there was a compensatory hypertrophy of the heart. The reproductive organs were also often found to be imperfectly developed. The views of Virchow, based on these observations, have not met with the general acceptance of the profession. It is said that the changes noted by him are by no means constant, and when present they may be regarded more as secondary results of chlorosis than as essential pre-existing conditions. Besides, in many of Virchow's autopsies stenosis of the aortic or mitral valves was present, and, according to Fagge,# obstructive diseases of the left side of the heart are almost invariably accompanied by hypoplasia of the greater arteries. It has seemed to me that a sufficient refutation of the *universality* of Virchow's pathological changes may be found in the ready tractability and rapid recovery often observed in even the most intense cases under proper therapeutic measures. Observers are agreed, however, that the walls of the heart and arteries, as well as of the veins, are apt to undergo slight fatty metamorphosis. Should the disease persist, this fatty change is apt to become considerable and to extend to the liver, to the kidneys, and even to the voluntary muscles. The medulla of the long bones may undergo the same changes as in other forms of anæmia. Beyond this, however, there are no organic changes in the cytogenic organs. Although it is well known that this disease is intimately associated with the evolution of the reproductive organs at the period of puberty, the occasional post-mortem changes found in these organs, consisting in hypoplasia of greater or less degree, have been too slight and too infrequent to entitle them to any fixed pathological value. Concerning the state of the blood in chlorosis, pathologists are also practically agreed. It has long been known that the circulating fluid in this disease is deficient in hæmoglobin, and a study of the urine, especially its marked poverty in urea and coloring matter, led investigators to the opinion that this deficiency was due rather to an arrest of development of the corpuscles before becoming fully impregnated with hæmoglobin than to an increased numerical destruction. It remained for Johann Duncan,* in 1867, to demonstrate the truth of this belief by actual experiment. He showed that the changes in the blood do not necessarily involve a numerical diminution of the red corpuscles (although this change is sometimes present), but a falling off in the hæmoglobin value of the individual corpuscles. Taking 1 as the normal standard, the proportion of hæmoglobin in Duncan's cases was 0·3, 0·31, and 0·37. The proportion may be reduced from 14 per cent., about the normal amount, to as low as 2 per cent. These brilliant and original observations of Duncan have been repeatedly verified by subsequent observers. In addition to the foregoing, other changes have been noted in the red corpuscles. Under the microscope many of them are found to be small in size, pale in color, and to present a variety of alterations in shape and form (poikilocytosis), being frequently crescentic, flask-shaped, or ovoid. In a word, the blood in untreated cases may be said to be in a state of imperfect evolution. These lesions, though not characteristic of chlorosis, are far more intense than in the majority of anæmic cases. The remaining constituents of the blood suffer neither qualitative nor quantitative changes. There is no reduction in the leucocytes, in the watery elements, or in the plasmatic albuminates (Becquerel and Rodier, Quinquaud). It has even been maintained that the blood is in a state of hyperalbuminosis, but the truth of this statement has not been demonstrated.

Ætiology.—The fundamental conditions underlying the causation of chlorosis have been suggested in the preceding paragraph. It is essentially a disease of puberty, and is

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* Read before the Clinical Society of the New York Post-graduate Medical School and Hospital, April 2, 1887.

† The attempt is not uncommonly made in practice to differentiate between cases of this disease, the diagnosis turning on the presence or absence of a greenish tinge of the skin. In my opinion, the term "chlorosis," or "chlorotic anæmia," should be applied to all cases of this class, the unqualified term "anæmia" being used in a more generic sense.

‡ "Ueber die Chlorose und Anomalien im Gefässapparate," 1872.

"The Principles and Practice of Medicine," 1886.

* "Sitzungsbericht der k. Acad. der Wissensch. zu Wien."

closely associated with the development of the sexual functions at that period. Cases are occasionally met with before and after this period, but the vast majority occur between the ages of fifteen and twenty-five years. As Immerman * justly remarks, a careful investigation of those cases seen at a later stage of life will show that they are simply relapses of the old trouble, which first appeared at the advent of womanhood. The same author, however, is of the opinion that age and sex are "physiological antecedents," and not "pathogenic conditions." Exactly why the disease comes on at this period we are unable to state. The ancients believed that unrequited love and masturbation were of special ætiological significance, whence the old names of "*febris amatoria*," "*icterus amantium*," "*morbus virgineus*," etc. Two chlorotic girls have admitted to me that they attributed their diseases to disappointments of this nature; it is probable, however, that these act in the same way as crosses and depressing emotions of other kinds, and occupy no special genetic relation to the disease. Chlorosis is most likely to occur in girls previously of feeble constitutions. Given a pale, delicate child of a capricious, fretful disposition, who has suffered more than usually from the diseases of childhood, it is not difficult to foresee the occurrence of chlorotic anæmia when to her already deficient cytogenic functions are superadded the increased demands of sexual development. This is not invariably true, however; the feeble and delicate sometimes escape, while the previously healthy fall ready victims. In these cases other factors are concerned in the causation. According to M. Potain,† heredity plays an important rôle. In several instances mothers who have attended their daughters to the clinics have informed me that they "suffered from the same disease when they were young." Osler ‡ believes the morbid stimulation of unwholesome literature to be an important factor. It is hardly necessary to add that poor food, overwork, and imperfect ventilation are largely instrumental in determining the development of the disease. Females at this age are, of course, not exempt from the causes operating to produce other forms of anæmia. Indeed, I have more than once seen anæmia resulting from excessive menstrual losses, but when produced in this manner the disease, it seems to me, is a true oligæmia, and not identical with the one under consideration.

Clinical History.—The symptomatic phenomena observed in chlorosis are varied and complex. The peculiar appearance of the superficies is one of the most striking. The derivation of the word from which the disease receives its name would indicate that a greenish tinge of the skin prevailed. This, however, is seldom true except when the disease occurs in very dark brunettes. The color commonly observed more nearly simulates a pale-yellow or fallow. In blondes the skin often presents a smooth, waxy, transparent appearance. It is not infrequent, however, to find a circumscribed flush on the cheeks, especially on excitement or after active exercise or exertion.# The mucous membranes lose their natural vermilion tint where visible, and assume a degree of pallor of greater or less intensity. The "cærulean eye" is a common feature, especially, according to my experience, in blondes. It is marked by a dark-blue tint of the globe, and is due to a semi-transparency of the conjunctiva. Emaciation is not a feature of chlorosis. On the contrary, a considerable degree of *embonpoint* is not rare, owing to a thickening of the *panniculus adiposus.* Muscular weakness, however, is seldom absent. Aside from the foregoing symptoms, the neuropathic element is perhaps most prominent, and this fact, together with the alterations in the blood, has led some to regard chlorosis as a neurosis of the ganglionic nervous system, and not referable to the category of anæmias. In passing, it may be stated that these pathological and symptomatic phenomena, while very striking in chlorosis, are not sufficiently characteristic to separate it from blood diseases in general; therefore it is very properly described by most writers as a form of anæmia.

The symptoms commonly described as referable to the nervous system are cardiac palpitation and precordial pain, neuralgia in various situations, hyperæsthesia of the surface, headaches, fainting spells, and various hysterical phenomena. The cardiac symptoms are most prominent and distressing—so much so, indeed, that it is not uncommon in dispensary practice to enter cases of chlorotic anæmia in the clinic-books as "functional cardiac disease." It is for the relief of these symptoms that the patient usually applies for treatment. They come on generally after some exertion, such as walking rapidly, climbing up-stairs, etc., and consist principally of violent palpitation, a sense of oppression, and notably dyspnœa. These symptoms are partially referable to a neurotic origin, but the slight fatty changes and concomitant weakness of the cardiac muscular structure are also, doubtless, concerned in their appearance. It is improper, however, to rank dyspnœa among the nervous manifestations. The cause of this distressing symptom is found in the great loss of the hæmoglobin of the corpuscles—the medium by which the tissues are oxygenized. There is usually sufficient present for the ordinary wants of the system, but not for the increased demand originated by active exercise or exertion. The pulse is not notably frequent, but is soft and compressible, and easily excited to great rapidity. In very severe cases transient œdema of the feet and ankles may exist from cardiac weakness. In long-continued cases patients will sometimes complain of severe frontal headache, post-orbital pains, etc., and will state that their eyes tire and become exhausted easily. Indeed, Gowers * maintains that inflammation of the optic nerve and retina is not an infrequent complication. He has seen one case of chlorotic neuro-retinitis continue until consecutive atrophy resulted. The case was at first supposed to be syphilitic, and treated with iodide of potassium. The emotions in this disease are most easily excited; patients will

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* Von Ziemssen's "Cyclopædia," vol. xvi.

† Art. "Anæmie," "Dict. encyclop. des sci. méd."

‡ Pepper's "System of Med.," vol. iii, 1886.

The discoloration of the skin is due to a diminution of the coloring matter of the blood. Gubler and Renaud are of the opinion that this has to do with the greenish appearance, if we admit that very diluted hæmoglobin allows the passage of green rays. Art. "Sang," "Dict. encyclop."

* "Brit. Med. Journal," May 21, 1881.

sometimes show the most *bizarre* caprice in their moods. Gastralgia and acid eructations occur in some cases. Constipation is a symptom of great frequency. According to my experience, the fantastic perversions of the appetite described by some authors are very rare. The appetite is more or less capricious, but usually poor for all articles of food. The temperature is not elevated in chlorosis. I have frequently tested the truth of this statement, and have found it to be invariable. In a few cases the temperature was rather below than above the standard of health. Dr. Mollière,* however, in a series of observations on eight young women suffering only from anæmia (chlorosis?), found that the rectal temperature, during a period of from two to fifty days, oscillated between 101·8° and 102·8° F. These observations, so far as I know, have not been confirmed. Immerman† is of the opinion that, when pyrexia exists, the case is probably transitional between chlorosis and progressive pernicious anæmia. The menstrual flow is usually scanty from the beginning in true chlorosis; it is, as a rule, attended by more or less dysmenorrhœa. Amenorrhœa may temporarily ensue. At rare intervals, however, menstruation seems to be normal so far as regularity and duration are concerned. I have never seen a case of genuine chlorosis in which menorrhagia was present. The appearance of the catamenia is sometimes delayed for months by this disease. Leucorrhœa is a not uncommon symptom.

Other morbid processes may complicate or stand in a close causal relation to chlorosis—such, for example, as phthisis, Basedow's or Graves's disease, gastric ulcer, endocarditis, choreic paroxysms, etc. The danger from pneumonia, typhoid fever, and other febrile disorders is undoubtedly augmented by the presence of chlorosis.

Physical Signs.—Some of the objective symptoms of this disease—viz., those relating to the skin, pulse, etc.—have been considered in the foregoing paragraph. It is to the auscultatory phenomena observed in the heart and great vessels that I would now invite attention. These consist in the cardiac and arterial murmurs, and the venous hum or *bruit de diable*, and occur not only in chlorosis, but in other forms of anæmia as well. Many diverse opinions have been entertained, and not a few misconceptions are extant with reference to these sounds. In two works on "Physical Diagnosis" in my library, probably as widely used as text-books as any similar works in this country or Europe, I find the following statements regarding the cardiac and arterial bruit: First text-book:‡ "These murmurs (anæmic and functional) are soft and blowing in character, are always systolic, and are *almost always aortic.*" Second text-book:# "They occur most frequently at the pulmonary orifice, next most frequently at the mitral orifice, but *very seldom at the aortic or tricuspid valve.*" (Italics mine.) In von Ziemssen's "Cyclopædia" it is stated that the hæmic bruits are generated at the *mitral and tricuspid orifices.* Thus we see the diversity of views in reference to their points of development. It is but fair to state, however, that most English and American authors regard these sounds as basic in their origin, and proceeding from both the aortic and pulmonary valves and orifices. I have made many careful examinations of chlorotic cases with special reference to this point, and am enabled fully to sustain this view, if auscultatory evidences are to be relied upon. In an average of five cases out of eight under my observation the murmur was best heard to the left of the median line of the upper part of the sternum; in the remainder the maximum intensity was to the right of this line. In almost all well-marked cases the bruit may be heard all over the upper part of the chest; sometimes it is audible as low as the seventh rib. It is only by carefully noting the location where it is most distinct that we can form a proper idea as to its point of origin. It is here that the stethoscope will be found of the greatest advantage. The bruit can be heard with great distinctness by the unaided ear, but it has seemed to me to be an impossibility to trace it to its point of origin by this means, and this, in my opinion, applies to all cardiac murmurs, whether organic or inorganic. The adjoining diagram will show the area of maximum intensity of the average cardiac bruit of anæmia according to repeated observations which I have made. It is present in almost every well-marked case of untreated chlorosis, and bears a direct relation to the severity of the disease, being loud and distinct in intense cases and almost inaudible in mild ones. The bruit is soft and blowing in character, is invariably systolic in time, and is best heard, as shown by the diagram, above the third rib, generally in a space extending from an inch to the right to two inches to

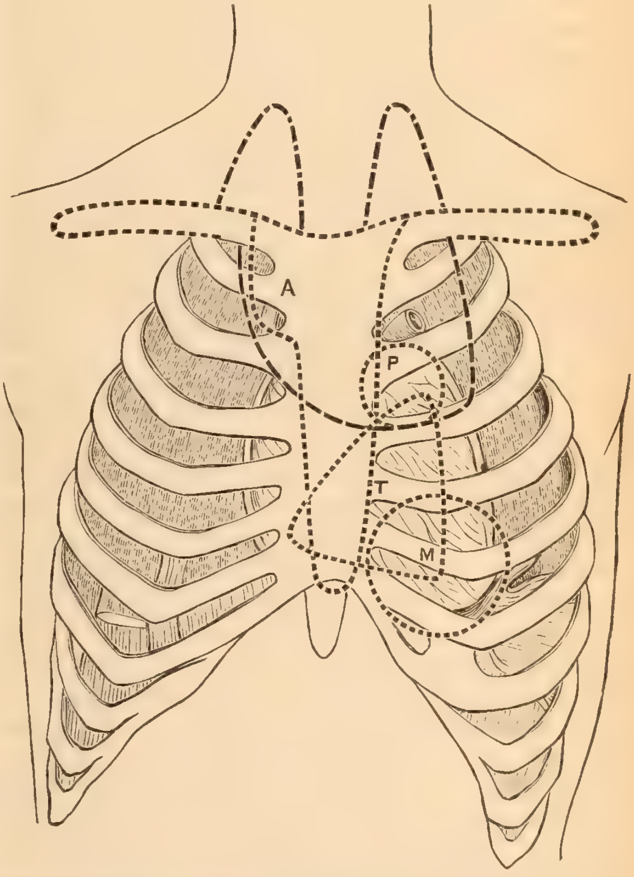

Diagram showing areas of cardiac murmurs. A, aortic; M, mitral; T, tricuspid; P, pulmonary. The "dot and dash" lines show the areas of the venous hum, and the dash line that of the systolic bruit of anæmia.

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* "Lyon médical," 1883.

† *Op. cit.*

‡ Loomis, third edition, 1883, p. 107.

Guttmann, 1880, p. 217.

the left of the sternum. The area of diffusion is invariably upward. In all well-marked cases it can be heard with equal distinctness along the course of the common carotids. When the murmur is slight and indistinct in mild cases, it is most apt to be heard to the left of the sternum over the pulmonary area alone. I have noticed also in convalescing patients that it persists in the pulmonary area for some time after subsiding in the aortic. I have never met with a case in which the bruit had its maximum intensity at the apex of the heart. Concerning the exact manner of production of these murmurs we may say, *imprimis*, that we are comparatively ignorant. One soon becomes convinced of this fact in looking over the literature of the subject. Immerman, who, it may be said, represents the German idea, insists that these sounds are generated at the auriculo-ventricular valves, and are due to regurgitation caused by weakness of the *musculi papillares*. We can not accept this explanation, however, for the auscultatory signs do not indicate that the murmurs originate at the mitral or tricuspid valve. It is well known that mitral and tricuspid murmurs are not heard with greatest distinctness at the base of the heart, nor are they transmitted up the great vessels of the neck. Besides, if the mitral and tricuspid valves are insufficient, why should there not be a corresponding insufficiency of the aortic and pulmonary valves, and consequently a double bruit instead of the invariable systolic murmur? We find in Fagge's work on the "Principles and Practice of Medicine" * the following explanation based on Professor Tyndall's "fluid-vein" theory, which assumes that the volume of blood is diminished. According to this view, the bases of the two main arteries (aortic and pulmonary) are supposed to be unable to retract in correspondence with the diminished volume of blood to the same extent as the orifices through which the blood enters them. Therefore, in passing through a small orifice into a larger receptacle, the blood is thrown into vibrations, and in this way the hæmic murmurs are produced. A fatal objection to this theory has been anticipated. The total volume of blood is not diminished in chlorosis, as has been repeatedly shown. In addition, how can this explanation be reconciled with the fact that certain drugs, notably digitalis, will almost always cause a complete disappearance of the hæmic bruit without in any way affecting the volume of the blood? Another explanation is hinted at by several authors, which seems to be less objectionable than either of the foregoing. It assumes the bruit to be purely arterial in its origin. With some amplification the theory is as follows: In anæmic conditions, as we are well aware, the muscular coats of the larger vessels undergo slight fatty degenerative changes, which causes more or less weakness and loss of tonicity of the vascular coats. This condition gives rise to an abnormal vibration or tension of the arterial walls, so that during the period of contraction, instead of the normal systolic sound, we hear a blowing murmur. The conditions mentioned in this explanation are undoubtedly present; whether or not they are sufficient to produce the bruit is so far a matter of conjecture. The view is strengthened by the rapidity with which the bruit disappears under treatment calculated to improve the nutrition of the arterial coats, and to regulate and strengthen their contractile power. This theory might be extended so as to include the changed relations between the arterial walls and the surrounding structures induced by the fatty changes as a factor in the production of the murmur.

The Venous Hum.—On applying the stethoscope over the lower antero-lateral cervical region in almost every well-marked case of chlorotic anæmia a more or less distinct continuous roaring sound, not unlike the subdued rush of waters or the boiling of a tea-kettle, is heard. This sound is known as the "venous hum," or *bruit de diable.** The sound which comes to the ear is undoubtedly produced in the superficial cervical veins and chiefly in the external jugular, as can be readily demonstrated by laying the finger across the sterno-mastoid muscle with sufficient firmness to arrest the flow of blood in this vein without interfering with the deeper circulation. Such pressure will cause an instant temporary cessation of the sound. Respiration should be suspended while the auscultation is being made, as the bruit is easily confounded with the breathing sounds. After numerous clinical investigations I would locate the maximum intensity of this hum in a plane rather external to the course of the great vessels of the neck. The space will correspond very nearly to a triangle having a base about two inches in length formed by the upper border of the inner third of the clavicle, and the sides intersecting at a point about two inches and a half above this bone (see diagram). It can sometimes be heard near the outer extremity of the clavicle over the subclavian vein in thin subjects. I have observed several curious facts in connection with this sound which I believe have not been mentioned before. In about one third of the cases in which it exists it is unilateral, and in these cases it is heard with far greater frequency on the right side alone than on the left side alone. The proportion is about as 4 to 1. I have noticed also that it persists on the right side sometimes for weeks after its total disappearance from the left. It is, therefore, not infrequently that we find a systolic bruit to the *left* of the sternum over the pulmonary artery, and a venous hum on the *right* side of the neck. These facts may be utilized by some subsequent observer in clearing up the obscurity which envelops the origin of these venous sounds, as in the present state of our knowledge it is as far from elucidation as is that of the arterial bruit. Fagge † offers the following ingenious theory, which is very similar to the one applied to the arterial sound: "According to the theory which refers all murmurs to the fluid vein, it may be easily accounted for, at least if we admit that in anæmia (or chlorosis) the volume of blood is diminished. The sinus of the external jugular vein is fixed by adhesions to the cervical fascia; consequently when, in an anæmic patient, the veins in general shrink and adjust themselves to the quantity of fluid circulating through them, the sinus remains unaltered in size and forms a relatively wide space within which the streams that enter it are thrown into vibrations." This is rather an improvement on the older theory of Hamernyk, which attributed the murmur to exactly similar conditions existing in the *internal jugular* vein. This view is open to the same objections here as in the case of the arteries. 1. There is no diminution in the volume of blood in chlorosis. 2. Digitalis will likewise frequently cause the cessation of the venous hum without influencing, so far as we know, the volume of blood. Consequently, it seems to me that we can do no better in the present condition of our knowledge than refer it to the same cause as that to which we attributed the arterial murmur—viz.: to a fatty degeneration and consequent weakness of the venous coats causing unequal and irregular vibrations, and perhaps also to a changed relation of the venous walls with the surrounding structures. The hum is continuous in the veins for the reason that the flow of blood is continuous and uninterrupted, and not intermittent or remittent, as in the arteries.

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* Philadelphia, 1886.

* So called by Bouillaud from the diable or humming-top, a toy common in Paris in 1835, the noise of which this sound resembled. It was called the "Nonnengeraüsch" by Skoda, the *Nonne* being an instrument similar to the French diable.

† *Op. cit.*

Diagnosis.—In well-marked cases this disease is so very distinctive in its symptomatology that it is difficult to see how it could be mistaken. The age and sex of the patient, the discoloration of the skin, the absence of emaciation and of a history of sanguineous losses, the strongly marked neuropathic phenomena, and the cardiac and vascular physical signs, form a picture at once complete and distinctive. Mistakes have been made, however, and it is well to consider some features in the clinical history of the affection which are common to other diseases. For example, a young female patient, with a pale face and a long-continued history of chest pains and dyspnœa, loss of appetite, and irregular or absent menstruation, might at the first blush be regarded as being either phthisical or chlorotic. But a further examination is not apt to leave the diagnosis long in doubt. If phthisis, even in its incipiency, is present, we shall find more or less cough, emaciation, and fever, with probably a history of hæmoptysis and night-sweats. The physical signs of phthisis also, if any are present, are so distinctive and form so sharp a contrast to those of chlorosis that it hardly seems possible to err. The disease may be distinguished from progressive pernicious anæmia and leukæmia by its tractability, by the absence of pyrexia, and by the absence of splenic or lymphatic enlargement. It has seemed to me that the chief difficulty pertaining to the identification of this disease lies in the exclusion of organic cardiac disease. This is sometimes not an easy matter, as the following case will show:

Mary C., aged twenty-three, unmarried, came under observation November 20, 1886. The patient stated that she had long suffered from precordial pain, great shortness of breath, and muscular weakness. Menstruation was irregular and she had occasional severe headaches. Her face was pale and bloodless, but there was no emaciation. (My notes do not state whether she had had articular rheumatism.) She was found to have considerable œdema of the lower extremities, extending half way up to the knees. On examining the chest, a distinct systolic murmur was heard at the base of the heart to the right of the sternum and propagated upward. There was no venous bruit. The action of the heart was somewhat labored, but the thickness of the chest walls and extensive mammary development made it impossible for me to decide whether or not there was some enlargement of the heart. The *tout ensemble* of symptoms led me to regard this case as one of aortic stenosis with loss of cardiac compensation. The patient was given inf. digital., ʒ j, and spt. æth. comp., ♏ xx, to be taken three times a day. Absolute rest was enjoined.

November 27th.—The patient has taken the medicine as prescribed. The cardiac murmur has completely disappeared, as has also the œdema of the feet and ankles. The palpitation and pain are also somewhat improved. She still presents the pale, anæmic appearance, however, and complains of loss of appetite. Digitalis and Hoffmann's anodyne continued, together with two grains of the subcarbonate of iron, after each meal.

December 4th. — The patient has continued to improve. Shows well-marked signs of returning color. Appetite is much better. No sign of œdema of feet or cardiac murmur. Iron ordered continued, and digitalis and spirits of ether in diminishing doses.

The patient did not return to the clinic subsequently, but the history of the case is complete enough to show that she was certainly not suffering from organic heart disease, but, on the contrary, from an unusually severe attack of chlorotic anæmia. Few cases, however, offer such difficulties in diagnosis as this. The chlorotic bruit is always basic and systolic, almost invariably soft and blowing and accompanied by a venous hum, and is very seldom attended by cardiac hypertrophy or dilatation or œdema of the lower extremities. Occasionally chlorosis may co-exist with organic disease of the heart. Such a case came to the medical clinic at the Post-graduate School last autumn. The patient had all the well-marked subjective symptoms of chlorosis, with a venous hum in the neck. In addition, she had a very *rough* systolic murmur in the aortic area and considerable cardiac hypertrophy. She had had repeated attacks of inflammatory rheumatism, and had long been aware that she had heart disease. Under treatment the venous hum disappeared and the general condition of the patient became much improved. The cardiac hypertrophy and the murmur, however, remained permanent. Some intense cases of chlorosis might at first be mistaken for hepatic jaundice, but an examination of the sclerotic coat of the eye is sufficient to differentiate between the two diseases.

Treatment.—Trousseau * states that a young girl who has been chlorotic will remember it all her life, as the disease leaves an indelible impression. It may well be that chlorosis leaves a permanent imprint on the memory, but the great mass of clinical experience is opposed to the view of Trousseau, that its effects are necessarily ineradicable from the physical economy. I believe I am fully sustained in the statement that, when treated promptly and energetically, few diseases are more tractable and easily managed than this. In occasional cases, however, the truth of Trousseau's proposition is amply verified; these cases will persist or undergo constant relapses in spite of all therapeutic measures. I have had one chlorotic girl under close observation and almost constant treatment for more than two years, without observing any definite improvement. There is reason to believe that Virchow's anatomical changes are present in these cases. Some patients will improve and remain in a fair state of health—artificial health as it were—but relapse suddenly as soon as treatment is suspended. As before stated, however, a majority of cases will yield kindly and permanently to proper remedies. We believe no fact in practical medicine has been more fully demonstrated than the promptness and efficiency with which iron overcomes the morbid manifestations of this form of anæmia. Our knowledge of the pharmacodynamic action of this agent in the blood has indeed been reduced to something like mathematical precision by the researches of numerous recent observers (Hayem and Malassez, Gowers, Hunt, Baxter, Willcocks, and others). These observations, while not strictly agreeing in some of the minor details, show practically that large doses of iron in this disease inaugurate at once an increase both in the number and in the hæmoglobin value of the individual red blood-corpuscles, and this increase, especially the latter, is very rapid and long-continued. Small doses of the hæmatinic act slowly, chiefly by giving rise to a numerical corpuscular increase, with at first a diminution in the individual hæmoglobin value. The ultimate effect of all ferruginous preparations, however, is the same—viz., to produce a rise both in the number and in the individual color value of the corpuscles, the latter being maintained long after the cessation of the former.* Iron, then, we may regard as our sheet-anchor in the management of these cases. It sometimes happens that the gastric irritability, which is not uncommon in chlorosis, will be sufficiently marked to contraindicate the use of iron. Here a few days' "preparatory treatment" may be required. Those cases attended by "water brash" and acid eructations are benefited by a short course of alkaline medication. The popular rhubarb and soda mixture of the U. S. P. will be found valuable here, especially if constipation is present. Other cases of indigestion will be benefited by a few drops of dilute hydrochloric acid after meals. Indeed, Zander † holds that chlorosis is largely due to a defect in the hydrochloric acid of the gastric juice by which the iron-holding compounds are dissolved, and maintains that the administration of this remedy after eating fulfills every indication, and enables the iron in the foods to be converted into an absorbable compound. While not agreeing with Zander in these views, I can testify to the value of this agent in many cases of anæmic and chlorotic dyspepsia. Some of these cases of long-continued gastric trouble are improved by Fowler's solution, in two- or three-drop doses, after meals; but, in my opinion, no arsenical preparation is of any value whatever in restoring the hæmoglobin of the blood, the loss of which, as we have seen, constitutes the true histological basis of the disease. In selecting the preparation of iron some discretion should be used. Until very recently I have confined myself almost exclusively to the tincture of the chloride. I have become fully convinced, however, that this preparation is exceedingly liable to lead to constipation and digestive disturbances. In addition, considerable care must be exercised in taking it, as it is apt to produce discoloration of the teeth, which is commonly regarded as a misfortune by young ladies. During the past few months I have formed a predilection for the famous "Blaud-Niemeyer" pill. The formula is as follows: ℞ Sulphate of iron, carbonate of potassium, of each half an ounce; marshmallow-root, 30 grains; gum tragacanth sufficient to make one hundred and twenty pills. Dose, two to four pills three times a day after eating. (It will be seen that this preparation is very similar to the pilula ferri comp. of the U. S. P., the latter containing carbonate of sodium instead of the potassium salt.) In the Blaud preparation a double decomposition occurs in the pilular mass; the carbonate of iron is formed, mixed with the sulphate of potassium. This preparation has the great advantage of ready digestibility; its good properties may also be partially due to the fact that the sulphate of potassium, as well as the iron, is a constituent of the red blood-globules. The maximum dose may seem rather excessive, but clinical experience, as well as late experimental research, warrants us in administering the hæmatinic in larger quantities than are usually authorized by posological tables. On theoretical grounds, the albuminate of iron recommended by Dr. A. McL. Hamilton * should be an easily assimilated compound. It has been held by Miahle "that the albuminate of the peroxide of iron is formed in the blood, and that this is the basis of the red globules." Mr. Angelo, of this city, has made a dry preparation of the albuminate, which appears in the form of lozenges, each of which contains ten grains of the salt. Regarding the use of emmenagogues, it may be stated that they are generally contra-indicated. Menstrual disturbances are not the cause, but the consequence of chlorosis. Yet, in certain cases in which the advent of the catamenia seems to be delayed by the presence of the disease, emmenagogues may be found useful, especially if the delay is causing the patient and her friends great anxiety. Under these circumstances I have combined a grain or two of the binoxide of manganese with the ferruginous preparation, with occasional happy effects. The manganese should not be kept up for longer than ten days or two weeks at a time, as it is extremely liable to upset the stomach.† One of the most distressing cases of gastric irritability I have ever seen was in a young chlorotic girl who had taken permanganate of potassium for amenorrhœa. I have never prescribed this remedy since. The cardiac palpitation is frequently so severe as to call for special treatment. It has seemed to me that no remedy is so beneficial in these cases as Hoffmann's anodyne. It should be given in twenty- or twenty-five-drop doses at the beginning of a paroxysm, the dose to be repeated every half-hour until relief obtains. The tincture of valerian or hyoscyamus may be combined with it. In unusually severe or obstinate cases of cardiac distress I have recently prescribed nitro-glycerin with considerable success. It may be given in the form of solution or granule in commencing doses of one one-hundredth of a grain. This remedy frequently causes a distressing headache, and should be temporarily discontinued after two or three days' use. Other symptomatic indications may arise during the progress of a case of chlorosis; the foregoing, however, constitute the most prominent and constant. The patient should, of course, be placed under as good hygienic surroundings as possible. Rules as to diet, ventilation, etc., are to be enjoined. Meat, especially beef, should enter largely into the daily dietary. As Professor Flint says: "The quantity of wholesome food should equal, but not exceed, the powers of digestion and assimilation." The latter are promoted by small quantities of malt liquors, or one of the simple bitters, at meal-times.

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* "Clin. de l'Hôtel Dieu," tome iii, p. 478

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* For valuable information on this subject, *vide* paper by Frederick Willcocks, M. D., M. R. C. P., etc., "Practitioner," August, 1883.

† Virchow's "Archiv," lxxiv.

* "Medical Record," vol. xxvi, 1884.

† See a paper by Dr. Thomas J. Kearney, "Medical Record," vol. xxx, 1886.

Summary.

Our knowledge of the pathological features of chlorosis may be expressed as follows: The disease may be said to consist in a temporary arrest of hæmatopoiesis, without fixed or well-defined organic changes in the cytogenic, circulatory, or reproductive apparatus. The true histological substratum of the disease consists in a loss of the hæmoglobin of the blood. This loss is due less to a numerical destruction of the red blood-globules (oligocythæmia) than to a diminution of the hæmoglobin value of the individual corpuscles (oligochromæmia). The remaining constituents of the blood are unchanged.

Concerning the causation we may say that this is *par excellence* a disease of puberty, and is intimately associated with the development of the reproductive organs at this period. The nature of this connection is not perfectly understood in our present state of knowledge. It occurs most frequently in the previously feeble and delicate, and its development is facilitated by imperfect nourishment and pernicious hygienic surroundings.

The principal symptomatic phenomena consist of a more or less intense pallor of the superficies, cardiac palpitation and dyspnœa, neuralgia in various situations, headaches, and other neuropathic manifestations. The diagnosis rests upon the foregoing symptomatic features, conjoined (in most cases) with certain auscultatory signs in the heart and great vessels, consisting of the *arterial systolic bruit* and the *venous hum*. Graver forms of blood disease are excluded by the absence of pyrexia and splenic or lymphatic enlargement.

The treatment of chlorosis consists in placing the patient under as good hygienic conditions as possible, in the observation of a nutritious regimen, and especially in the administration of large doses of iron. The curative value of ferruginous preparations has been amply attested both by clinical experience and experimental research. Other symptomatic indications which may arise are to be met as occasion requires.

THE RADICAL CURE OF HERNIA.[*]

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HERNIA exists in all ages and conditions of life; there is, therefore, no necessity to plead the importance of a subject so full of general interest. From a remote period the cure of this affection has attracted the attention of the surgeon. It is a singular fact, apparent on perusal of the surgical history of the past as well as the writings of our own times, that of the various methods that have been devised in order to effect the radical cure of hernia, all, with one or two exceptions, have been abandoned as dangerous and unsatisfactory. It is most remarkable that the simplest and most direct operation is the last to be proposed and ultimately adopted. To cut down upon the cleft in the abdominal wall, to remove the trouble as we would any other deformity, to bring into apposition and unite the parts abnormally separated—should long ago have suggested itself. So late as the year 1881 I saw Mr. John Wood, of King's College Hospital, London, operate for the radical cure of hernia by his subcutaneous method, and yet he at this time was almost the only one attempting the cure of hernia by a radical operation. Not until 1879, when Czerny presented a report of several cases of operation by the open method at the meeting of the Berlin Congress, did surgeons generally adopt the radical operation. The introduction of antiseptic principles in surgery marks a new era in the treatment of this disease; it is one of the greatest surgical triumphs of this decade to have offered to many a safe and efficient cure for a most distressing malady. A few years ago the subcutaneous operation was the only surgical interference attempted, whereas now, under the influence of Listerism and stimulated by the success with which the abdominal cavity is invaded for a variety of affections, we find surgeons on all sides devising bold operations for the relief of all the different forms of herniæ.

In considering the propriety of an operation of this kind, the danger to the life of the patient must be taken into consideration. The risks vary, of course, with the method adopted and the condition of the hernia. Much also depends on the skill and experience of the surgeon. That these are not unimportant considerations is shown by the results of other operations, such as laparotomy or ovariotomy. In the history of these operations, as well as that for the radical cure of hernia, it is shown that the rate of mortality and failure of the earlier operations were very much greater than at a later period, when experience had taught the skill and care necessary to deal with the difficulties of each case. This fact is admirably illustrated in the gradually decreasing rate of mortality in the operation performed by Mr. Wood.

In a recent article on the radical cure of hernia by Anderegg,[*] the statistical results of 136 operations performed at the surgical clinic at Bâle are given. These operations were performed on 128 patients; the mortality percentage in the cases of non-incarcerated intestine was 3·6 per cent. Comparing these figures with the results reported by Ségond and Leisrink, the author finds that in 273 operations the mortality was 5·1 per cent.

Svenen and Erdman[†] have recently reported the results of 106 operations for the radical cure of hernia. The operation consisted in the ligature of the sac as high as possible and its extirpation, followed by suture of the aponeurotic pillars. The mortality of the operation was absolutely nil. There was a recurrence in 20 per cent. But even in the cases where the hernia supervened, the operation was useful in that the protrusion was easily reduced, and the painful symptoms were relieved.

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[*] Read before the Medical Society of the State of New York at its eighty-first annual meeting.

[*] "Die Radical-Operation der Hernien," "Deut. Zeits. f. Chirurg.," 1886, Bd. 24, Hft. 3, N. 4.

[†] "Nord. med. Arkiv."

Dr. J. Lucas-Championnière, in a recent valuable and interesting contribution to this subject,* reports ten operations performed by himself, with no deaths and only one recurrence; in this case the hernia was easily supported by a truss. He maintains that a mass of statistics collected from different sources has no value whatever. A few cases reported by one individual have a much greater value. "Malgré la grande competence de leurs auteurs, je crois ces statistiques entachées d'un vice radical. Malgré des chiffres nombreux, elles ne démontrent rien du tout." He states, as a result of his experience, that the radical operation, performed with strict antiseptic precautions, is not only free from danger to life, but that it should not be followed by those accidents which frequently attend wound healing, such as suppuration and the formation of fistulæ. These complications are due in all cases to imperfect antisepsis, conclusions with which I fully agree. I can not read the report of the series of cases operated upon by the distinguished Czerny † without feeling that the antiseptic details in many particulars were sadly defective.

The direct radical operation is now established on a scientific basis, and surpasses in every respect every other mode of treatment designed for the cure of hernia. If the patient is not permanently cured by an operation, his condition is in no way rendered worse. If the hernia recurs, it is of a smaller size, capable of being comfortably supported by a truss, and is more amenable to a permanent cure by a subsequent operation.

What is the proper application of this operation? What are the cases in which a radical operation is indicated? Surgeons as yet are not of a unanimous opinion in their answers to these questions. It has been well established that a radical cure should be attempted in all cases of kelotomy for strangulation.

I believe that the radical operation is applicable to all the varying forms of hernia occurring in young and old. No one will dispute that an operation is perfectly justifiable in either of the following conditions:

1. All forms of irreducible hernia.
2. Congenital hernia with atrophied testicle.
3. Large herniæ which can not be restrained by the use of a truss.
4. All forms of painful hernia.
5. Hernia existing in persons whose occupation subjects them to the dangers of a strangulation.

Before considering the various modifications of the modern operation that have been suggested, a description of the general operative procedures, as illustrated in a case of indirect inguinal hernia, will be given. The method outlined is equally applicable to other forms of abdominal hernia.

OPERATION I. *Large Reducible Inguinal Hernia; Czerny's Operation; Removal of the Sac; Suture of the Canal.*—The patient whose history forms the basis of these remarks was a married woman, forty-seven years of age, who for some time had suffered from a large reducible inguinal hernia. She stated that in 1870, after a severe labor, for the first time, she had noticed a small hernia on the right side. She had never worn a truss since the appearance of the hernia, but had supported the protrusion at times by means of a pad and bandage. On two occasions during the last year the hernia had become temporarily irreducible after unusual exertion. Receiving a severe fall on the ice in January, 1886, the hernia had protruded, giving severe pain and symptoms of strangulation. She was taken by ambulance to the Long Island College Hospital, where she was placed under the influence of ether and the hernia reduced. Since her fall the tumor had given her much trouble, and prevented her from performing her ordinary duties. When she first consulted me in February, 1886, the tumor was enormous, extending half-way down the thigh. As the patient would not at this time consent to an operation, I sent her to the Brooklyn Orthopædic Dispensary, where she was fitted with a truss.

In about four weeks the patient again returned, wearing a truss, but stated that it did not prevent the protrusion of the hernia. The inguinal canal was now so large that I think it would have been impossible to retain the hernia by means of mechanical support. She now readily consented to an operation. On March 26th I performed the following operation:

The patient was prepared for the operation by having her bowels thoroughly evacuated, and for twenty-four hours preceding the operation being placed on an exclusive diet of pancreatized milk. Before commencing the operation, the integument in the neighborhood of the inguinal region was thoroughly washed with soap and warm water, cleanly shaved, dried, washed with ether, and finally covered with lint saturated in a 1-1,000 bichloride solution. After the patient was etherized, towels saturated with 1-2,000 bichloride solution were placed over the parts in the region of the groin, leaving exposed only sufficient space for the incision. An incision six inches in length was made in the axis of the tumor. A careful dissection was then made, until the distended sac of the hernia was reached. All hæmorrhage was arrested by ligatures of Kocher's catgut. The sac was exceedingly thickened and hardened, hypertrophy having been induced by long-continued pressure. The sac was separated and elevated from the adjacent tissues, thus requiring an elaborate dissection and leaving a large wound fully ten inches in length. The finger was then passed along the neck of the sac, separating it from the margins of the internal abdominal ring, while traction was made on the sac, so that it might be ligated as high as possible, in order to obliterate the pouch of peritonæum at the mouth of the sac. The hernial sac was then opened, its contents were inspected, and it was reduced within the abdominal cavity. The neck of the sac was transfixed with a needle armed with a double ligature of stout silk, and tied with Tait's Staffordshire knot. The walls of the sac were so thick and vascular that, foreseeing the danger of subsequent hæmorrhage, I would not trust to the uncertainty of a catgut ligature. This afterward proved a source of trouble. The fundus of the sac was then cut away beyond the ligature. The skin was so stretched and redundant that I found it necessary to remove a large elliptical-shaped portion, in order to secure its approximation with any degree of neatness, and at the same time secure some additional support for the tissues beneath. The tissues forming the pillars of the inguinal canal were then freshened and closely approximated by means of two silver-wire and two silkworm-gut sutures. These were introduced as follows: A needle was threaded at each end of the suture and introduced from within outward, including the pillars of the ring and the external integument. By means of these strong sutures and several fine interrupted catgut sutures the internal abdominal ring and inguinal canal were completely obliterated. A rubber drainage-tube was inserted and the skin-wound closed by a continuous catgut suture. Iodoform was sprinkled over the wound, and an antiseptic dressing firmly secured in place, after which the patient was put in bed. The temperature never at any time rose above 100° F. The dressing was not removed until the eighth day, and then only because the nurse allowed the patient to soil a portion of the dressing with her urine. The wound was found to be completely united except where the drainage-tube had been inserted. The drainage-tube was removed and an antiseptic dressing reapplied. The wire sutures were removed on the twelfth day; it was then discovered that a small fistulous tract remained at the site of one of the wire sutures. This at the end of a week had apparently closed. At the end of three weeks the patient resumed her ordinary duties. In about a month the patient again presented herself; the cicatrix had become hard and firm, but the small fistula had again opened; it continued to discharge a few drops of pus until May 20th, when I opened the cicatrix in the tract of the fistula. An incision was made through the old cicatrix, following by direction the fistula, which led down to the silk ligature encircling the neck of the sac. The ligature was removed by a careful dissection, in order to avoid opening into the peritoneal cavity. The Tait knot was removed entire. The softened tissue surrounding the track of the ligature was curetted away, the wound packed with iodoform gauze, and allowed to heal by granulation. The patient made an easy recovery, and in a short time was again able to go to work. In August I examined the patient; the line of union was firm and resisting, and there was nothing to indicate a return of the hernia.

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* "Cure radicale des hernies," Paris, 1887.

† "Berlin. klin. Wochenschr.," 4, 1881.

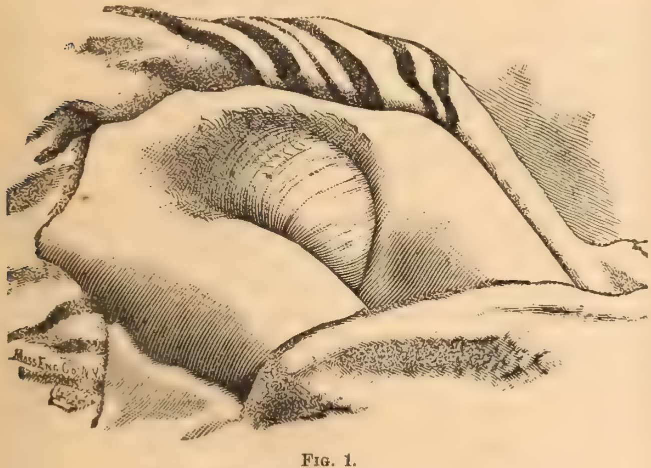

Fig. 1.

I herewith present a photograph, which I took after the patient had been etherized, showing the site and size of the tumor. Owing to the fact that the patient's bowels had been thoroughly evacuated of fæces and intestinal gas, the tumor is not distended to its full size.

The patient remained well up to November, when, after she had passed through a severe attack of bronchitis, a slight bulging appeared in the region of the cicatrix. This is admirably shown in Fig. 2, although the size of the tumor is slightly exaggerated. On November 29th I performed a third operation for her relief, which is described further on.

There are several practical points which are worthy of note in the above case. When the sac is very large, as in the case related, it is recommended that the neck be simply ligatured, and that the body of the sac be left *in situ*. It is maintained by many that the extent of tissue disturbance caused by the complete removal of the sac is often great, and adds materially to the danger of the operation. There are several objections to this procedure. In the first place, the presence of the sac in the inguinal canal prevents accurate approximation of the pillars. Again, there is danger that the vitality of the sac may be lost, and suppuration follow. I am convinced that a large incision, with strict antiseptic precautions, increases very slightly the danger of the operation, and that this is more than counterbalanced by the advantage of working in an open space instead of a small, deep cavity. It is also maintained that a large, firm skin cicatrix offers a greater resistance to the recurrence of the hernia than the natural elastic skin. In the treatment of the sac I followed the method recommended by Banks and the German surgeons. In order to secure a good result, the sac, the neck, and even a part of the peritonæum within the abdominal ring, must be completely extirpated. To accomplish this effectually, the sac must be carefully separated from the subjacent tissues and from the margins of the internal abdominal ring. While firm traction is being made on the sac, the neck is transfixed with a needle carrying a double ligature as far within the abdominal cavity as possible. The ligature is then tied in a double loop, or several ligatures may be passed through the neck of the sac at different points, and tied so as to form a chain ligature. The shoemaker's stitch, as recommended by H. O. Marcy, would serve a good purpose in the ligature of the hernial sac.

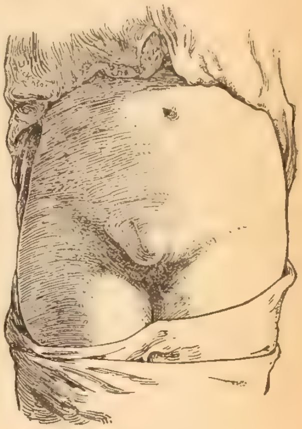

Fig. 2.

In regard to the material of the ligature, it is generally recommended that catgut be used; the only objection to this material is that it becomes softened and stretches. Several surgeons have reported hæmorrhage due to this cause. Some of the Liverpool surgeons have ligated the sac with silver wire. The disadvantage of wire is that it is apt to act as a foreign body, and has to be removed at a subsequent period. Olshausen has tested silver wire and silk-worm gut side by side, and found the gut less irritating than the wire. Several of the English surgeons use silk-worm gut for sewing up the abdominal wound after ovariotomy. Mr. Parker has reported several cases of suppuration due to the large ligature used, and other surgeons have reported similar accidents. As Championnière[*] well says, the single detail of a badly prepared ligature is sufficient to convert a benign operation into a serious calamity. The ligature used in my case had been boiled in a sublimate solution, but I believe that it became infected subsequent to its introduction. I see no reason why carefully prepared silk is not perfectly innocuous. Billroth has adopted it almost exclusively in his practice. I believe that chromic catgut for the subcutaneous tissue, with silk for uniting the skin, will give the best results.

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[*] *Op. cit.*

The method of treating the sac, as employed by Czerny, has been modified in various ways, most of which are intended to obviate the danger attending its removal, and to effect a more permanent cure. Mr. Charles Ball, surgeon to Sir P. Dun's Hospital, Dublin, dissects the sac from its attachments, seizes the neck high up with a clamp forceps, and then twists it, executing, as a rule, three complete revolutions. The advantages which he alleges for this operation are three: First, a more perfect closure of that portion of the sac situated in the inguinal canal. Second, the twisting has the effect of tightening and throwing into ridges the peritonæum for a considerable area surrounding the abdominal opening. The funnel-shaped puckering of peritonæum presenting at the internal abdominal opening is obliterated. Third, the danger of septic peritonitis is diminished. After disposing of the sac, the pillars of the ring are approximated by silkworm-gut sutures, which are made to transfix the stump, in order to prevent its untwisting. Hardie has suggested that the ligature be carried around the transversalis fascia as well as the peritonæum. Dr. J. D. Bryant* has employed a method of treating the sac which has not hitherto been described. After the sac is tied, two parallel incisions are made in the pillars on each side. The sac is then interwoven into these openings, so as to approximate the boundaries of the abdominal ring, and at the same time introduce additional layers of peritonæum in front of the weakened point of the abdominal wall.

Championnière † insists that the total eradication of the sac is the basis of the operation. He does not lay so much stress on the suture of the pillars; still, his practice is to bring them closely in apposition, and suture with catgut.

The greatest advance in the radical treatment of hernia has recently been practiced by Macewen, of Glasgow.‡ His improvements in the method of operating are three: 1. The use of stout catgut sutures, which may be left in the tissues without danger of irritation. 2. Forming out of the sac an internal abdominal peritoneal pad or bulwark. 3. The restoration of the valve-like arrangement of the inguinal canal.

Disposal of the Sac.—Instead of tying and excising the sac, as above described, it is dealt with as follows: Separate and lift the sac from its attachments in the inguinal canal. Then, with the tip of the finger introduced alongside the sac, separate the peritonæum for about half an inch round the whole abdominal aspect of the circumference of the internal ring. A strong catgut ligature is then securely tied in the bottom of the sac, the free end, threaded on a curved needle, is made to transfix the sac repeatedly, and finally to pierce the abdominal wall, from within outward, one inch above the internal ring. By traction on the ligature it is evident that the sac becomes folded upon itself, like a curtain, and drawn completely within the abdomen, there to remain as a bulwark to prevent the future descent of the hernia. Whether this method of disposing of a thickened and inflamed sac is advisable in all cases is to me still a doubtful question.

Suture of the Ring or Canal.—To my mind the most important part of Macewen's operation is the valve-like closure of the inguinal canal. The sutures are first passed through the conjoined tendon or internal pillar, and then through Poupart's ligament in such a manner that, when tightened, the inner pillar is drawn under the outer pillar, and two flat surfaces are placed in apposition for union. Macewen has used in his operations a peculiar form of hernia-needle and method of introducing the sutures, a description of which appears somewhat tedious. I have simplified the operation in one case by using a "double-needled suture." Both needles are made to penetrate the conjoined tendon at two points three fourths of an inch apart, passing from within outward, so as to leave the loop on the inner surface. The needles are then passed in a similar manner through Poupart's ligament, and the aponeurotic structures of the transversalis and the internal and external oblique muscles. The needles are passed through these structures at points on a level with the corresponding structure in the conjoined tendon. Several sutures may be introduced in a similar manner at points lower down the inguinal canal. When these sutures are tightened and tied, the outer pillar is found to overlap the inner, so that the edge of the conjoined tendon is drawn under and in contact with the surface of the external pillar. The needle of Reverdin, as recommended by Championnière, the eye of which is closed by a sliding lever, would serve an excellent purpose in the introduction of these sutures.

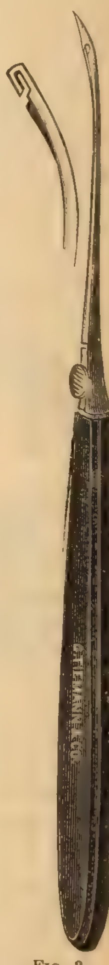

Fig. 3.

The success attending Macewen's operation has been most remarkable. He reports thirty-three cases in which the operation was performed for the radical cure of inguinal hernia, in which the ages of the patients ranged from five to fifty-seven years. Of these not one had a return of the hernia, and only one wore a truss as a protection against its recurrence. In almost every case union occurred without suppuration.

On November 29, 1886, I performed the following operation:

Operation III. *Modification of Macewen's Operation.*—After preparing the skin at the seat of operation, an incision was made down to the hernial sac. It was my intention to deal with the sac according to the method of Macewen, but I met with unforeseen difficulties. The sac was so thin and adherent that, in my attempt to enucleate it, I opened several times into the peritoneal cavity. I then determined to make an elliptical section of the whole abdominal wall through the peritonæum, and including the region of the inguinal canal.

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* "Operative Surgery," 1887.

† *Op. cit.*

‡ "Annals of Surgery," August, 1886.

Macewen has reported that in several cases of femoral hernia the sac was so firmly adherent that it could not be separated and reduced. This operation was very instructive in several ways. A surgeon can hardly have a true conception of the nature of a hernia until he has performed a similar operation on the living subject. The condition of the widely separated pillars and relaxed peritonæum is clearly shown. It is generally believed that pulling down the sac and tying it off, at the peritoneal level, obliterates the funnel-shaped depression presenting at the abdominal ring. As a result of my dissection, I am convinced that this object in most cases is not accomplished. There is an abnormal laxity or fullness of the peritonæum in the neighborhood of the inguinal canal; this is especially marked just above the pubic bone, the bony surface probably acting as an inclined plane and serving to direct the intestinal wave toward this weakened point. In tying the neck of the sac, the peritonæum, for a considerable area surrounding the abdominal opening, is thrown into ridges or radiating folds, and it is readily seen that a pouch or depression situated at a short distance from the seat of ligature is not effaced, however deeply the sac is tied. In order to meet the difficulties in the above-mentioned case, I removed all traces of the hernial sac and united the edges of the parietal peritonæum by a continuous catgut suture running in the axis of the inguinal canal.

Now follows what I believe to be the most important step of Macewen's operation—the uniting of the aponeurotic structures in a valve-like manner.

Instead of passing the suture with a needle mounted on a handle, as recommended by Macewen, I used a suture of catgut with a needle threaded at each end. Both needles were passed from within outward through the internal pillar and then through the external pillar; four sutures were thus passed, and, when they were tightened, Poupart's ligament was found to overlap the conjoined tendon, thus securing broad surfaces for union. The superficial tissues were united by fine catgut sutures. The several layers of tissue were then matted together by means of buried and quilted sutures. The whole wound united by primary adhesion, and the patient made a rapid and uneventful recovery. It is now over two months since the operation, the cicatrix is firm and unyielding, and there is no sign to indicate a recurrence. The final result is illustrated in Fig. 4.

Allow me to suggest, in this connection, that if Macewen's method of uniting the tendinous aponeuroses were adopted in ordinary cases of abdominal section, ventral hernia would be less frequent. Professor W. Gill Wylie, for several years, has insisted upon the careful coaptation of the abdominal fasciæ in closing the abdominal wound. In five cases of ovariotomy, where I have exercised much care in approximating the fibrous tissues, no sign of a ventral hernia has appeared in any case. The manner of treating the omentum is worthy of some consideration. It is believed that the descended omentum plays an important part in the production of hernia. In the radical operation, just before opening the sac, the hernia should be made to protrude; and if, on opening the sac, part of the contents are found to be omentum, it should be ligated and excised as high up as can be reached. In tying off a portion of omentum, it should be transfixed with a double ligature and tied with a double knot on both sides. If the mass of omentum to be excised has a broad pedicle, a number of ligatures should be passed and tied with a chain knot. An additional precaution, to prevent hæmorrhage, is to place an extra ligature so as to encircle the whole mass. The pedicle should then be dropped. Adherent omentum should be carefully separated and treated in the same way. I believe that the shoemaker's stitch of Marcy would be an excellent method of tying the pedicle in excision of the omentum.

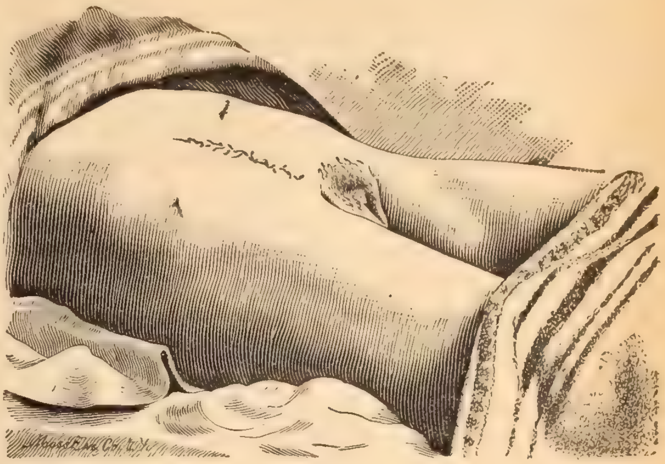

Fig. 4.

If the hernia is complicated with an undescended testicle, the surgeon should not hesitate to perform castration. Such an organ is usually in an atrophic state and is of little value as a sexual organ. It is also a source of constant danger if left in the inguinal canal, and it predisposes to the recurrence of the hernia. It is also stated that an undescended testicle is especially liable to become the seat of malignant disease or cystic degeneration.

In cases of congenital hernia the lower part of the sac should be cut off and sewed up, so as to form an artificial tunica vaginalis. The upper part of the sac is divided longitudinally, separated from the cord, and then dealt with as the sac of an acquired hernia.

The following case illustrates the method of procedure in a case of umbilical hernia:

L. S., a female, thirty-nine years of age, married, no children. Patient stated that she had had a small protrusion in the region of the umbilicus for about ten years. During the past six weeks this had rapidly increased in size, giving rise to considerable pain, and attended with nausea and vomiting. Examination showed a hernial protrusion situated just below the navel. The integumentary covering was red and œdematous. The hernia was irreducible, and very sensitive to pressure.

Operation.—Antiseptic precautions. Incision in a vertical direction through the integument of the hernia. Sac carefully isolated and aponeurotic structures forming the borders of the ring exposed. Sac was then opened; hernia was found to consist of adherent omentum; this was separated, ligated with strong catgut, excised beyond the ligature, and the stump reduced within the abdominal cavity. The sac was excised at the edges of the parietal peritonæum. The edges of the peritonæum were united with a continuous catgut suture. The edges of the abdominal ring then demanded attention. The margins of the aponeurotic structures were freshened and united according to Macewen's method. Three rubber drains were inserted, and the abdominal wound was closed, layer by layer, with continuous catgut sutures, antiseptic dressing applied, and patient placed in bed. Recovery without incident; bowels moved naturally on the fourth day.

A word in regard to the antiseptic method and mode of dressing. In all cases of operation on hernia the antiseptic method should be followed even to the minutest detail. This is necessary, not only for the safety of the patient, but in order to secure the success of the operation. An excellent description of general antiseptic details, by R. T. Morris,* may be found in the "Annals of Surgery" for December. I shall merely dwell on some of the more important precautions in connection with this operation. The thorough cleansing of the region of operation should occupy the earnest attention of the surgeon. A wound in this region is especially liable to infection, because of its proximity to the avenues of excretion. The skin should be thoroughly washed with soap and water and then shaved; it is then washed with 1-to-1,000 bichloride solution, or 1-to-20 carbolic-acid solution. During the etherization of the patient it is covered with a compress wet with one of the above solutions. During the progress of the operation the parts around the wound should be covered with towels wet in a hot 1-to-2,000 bichloride solution. Should any of the abdominal contents protrude through the wound, they should be wrapped in towels wrung out of a hot 1-to-5,000 bichloride solution, and be wiped with a clean sponge before being returned to the abdomen. If a portion of the omentum is resected, the stump should be wiped with a clean sponge before it is placed in the abdominal cavity.

After completion of the operation, the dressing should be applied as follows: If the wound is a large one, it should be covered with a strip of Lister's protective; around this a number of strips of iodoform gauze are placed. A number of handkerchiefs of bichloride gauze, shaken up into a loose mass, are then placed on the wound, and above this a large pad of bichloride or borated cotton. After a sufficient thickness of dressing has been applied, a spica bandage of wet gauze is snugly applied. The spica is made with much care; when this is done, the dressing forms a homogeneous mass. The dressing should not be removed under six days, and, when this is done, all antiseptic precautions, including the spray, should be employed.

The patient should retain a perfectly easy and recumbent posture during the first three or four days, in order to secure exact approximation of the parts and immediate union, with a firm cicatrix. It is thought by many surgeons that the cicatrix formed after a certain amount of suppuration is firmer and more resisting. Dr. R. F. Weir, in order to secure this form of cicatrix, packs the upper part of the wound with iodoform gauze, so as to secure union by granulation. I believe that the cicatrix secured by primary union is more perfect, and offers a greater resistance to the return of the hernia. It stands to reason that exact approximation of the parts, with rapid and immediate union, will insure a firmer abdominal wall than can be obtained after the parts have been subjected to all the wound disturbances which must accompany prolonged suppuration.

PERSONAL IMPRESSIONS OF THE ARKANSAS HOT SPRINGS,

WITH A REPORT OF A CASE.

By GEORGE W. GALVIN, M. D.,
BOSTON, MASS.

THE object of this paper is to give an example of those exceptional cases in which the most rigid and scrupulous treatment does not prevent the full manifestations of secondary syphilis, or mask its symptoms in the least; and at the same time to describe the treatment which is used with the baths at the Arkansas Springs, hoping that it will be of interest and benefit to those of the profession who are not familiar with it. Moreover, I wish to lay stress upon the importance of keeping the functions of the excretory organs in a high state of activity by baths and the use of alkaline mineral waters internally, while using anti-syphilitic remedies.

In May, 1885, while sewing a scalp wound, I ran the needle into the outer side of my left index finger just at the root of the nail. I used the usual precautions against inoculation, such as sucking the wound and applications of antiseptic solutions, and thought no more about the matter until about a week afterward, when the finger at the seat of puncture commenced to annoy me by a sensation of throbbing pain. The end of the finger on the outer side was of a dull-red color. The pain was similar to that experienced when a string is tightly tied about the finger. There was no ulcer to indicate a syphilitic lesion, and, being at a bony extremity, specific induration could not be satisfactorily determined. For the next six weeks the pain was almost constant, and every therapeutical and surgical means was used to obtain relief, but that only came with the development of an eruption of as profuse a syphilitic roseola as I have ever seen. In the mean time my health failed so perceptibly that I gave up my professional work, placed myself under the care of Dr. James C. White, and went into the country. At the end of the twentieth inunction, each consuming about as much as a two-grain blue pill, my mouth began to show the influence of the mercury. I returned home, ceased treatment until the sensitiveness of my gums had disappeared, and was then placed upon the "mixed treatment," viz.: one fifteenth of a grain of bichloride of mercury in pill, and from five to ten grains of a saturated solution of the iodide of potassium. This treatment, except where symptoms developed requiring larger doses of the iodide, was continued almost uninterruptedly for twenty months, with an occasional tonic of iron and quinine. During this time, although I was as faithful to the directions given me by my medical attendant as a patient could be, and was receiving thorough treatment with mercury and iodide of potassium, the following symptoms presented themselves, viz.: The eruption of roseola already spoken of, eruptions of maculæ, papulæ, pustulæ, and squamæ; a myalgia which was so painful that for two days it was almost impossible for me to turn in bed; angina and alopecia, both unusually severe; an iritis commencing in November and lasting nearly four months, and leaving posterior synechiæ which could not be broken up by atropine, and diminished vision of about one third. During the summer of 1886 a peculiar pain commenced in my coccyx and extended gradually as high as my seventh cervical vertebra. This pain was not diffused, but occurred at different points and remained about six weeks. There was tenderness on pressure. It was followed by momentary attacks of dizziness, more frequent in the morning. From the first manifestations of secondary syphilis in July, 1885, until August, 1886, I was subject to outbreaks of some form of the disease. By that time I considered it pretty well under control, but, to my disappointment, in September I was attacked by the most intense headache imaginable, which seemed to extend from the base of my brain to the fundus of my eyes. It was more severe on the right side, and as painful in the forenoon as at night. It resisted doses of the iodide of potassium as high as sixty to eighty grains, four or five times daily. After waiting nearly four months, hoping that the iodide would sooner or later control the pain—and the only result being that it put my stomach into such a rebellious condition that digestion was almost impossible—I concluded to consult Dr. F. N. Otis, of New York city. After a careful consideration of my case, Dr. Otis advised me to give up my professional work entirely for the time and devote myself to the business of recovering my health. He also suggested that I would find greater toleration of the remedies necessary at the Hot Springs of Arkansas, and advised my giving them a trial. Taking his advice, I arrived in that city November 20, 1886, and placed myself under the care of Dr. Algernon G. Garnett.

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* "The Results of Antiseptic Methods in Treatment of Wounds, as shown in a Series of One Hundred Consecutive Operations."

Among the laity there is a common idea that the water of the Hot Springs is a specific for syphilis. It is not unusual to meet people who have visited the springs and undergone a course of treatment, who profess to have been entirely cured. Personally I know of but one patient who could be considered as cured, he being under my observation for eight years, neither he nor his children showing any evidence of the disease.

After I had given Dr. Garnett my history prior and subsequent to inoculation, and answered many questions about my kidneys, heart, and nervous system, he placed me on the following treatment, viz.: one ounce of mercurial ointment, which is a 50-per-cent. mixture, divided into six papers; a saturated solution of the iodide of potassium, thirty minims to be taken after meals; abstinence from malt and spirituous liquors, tobacco, fruit, and pastry.

He laid particular stress upon abstinence from tobacco, and was so emphatic that I was naturally inclined to attribute his strong antipathy to a hobby, but observation among his patients, and practical personal experience, convinced me that he was right, for the system of a syphilitic can not tolerate tobacco in any form. To prove this assertion, is it not a fact that mouth symptoms and mucous patches on the pharynx are the commonest symptoms with which we have to deal? and the smoker is the one who comes in for treatment most frequently; at least, that has been my experience. But to return to the treatment prescribed:

At eleven o'clock I was to take a bath, at a temperature of 98° F., for ten minutes, drink a pint of the spring water at a temperature of 35° or 40° F., and then, after having dressed, go into the waiting-room, and remain there until perspiration had almost ceased; then return to my room, remove my clothing, dry myself, get into bed, and stay until I ceased to perspire, which might be in an hour or an hour and a half. At 2.30 P. M. my bath attendant would come to my room to rub into my back one of the papers of mercurial ointment, each paper containing one sixth of an ounce, the inunction to last twenty minutes. A long walk in the morning and a horseback ride in the afternoon were my usual exercise. After following this treatment until the sixteenth inunction, my gums became tender, so that I stopped the mercury for a week, and then renewed the ointment until I had received twenty-four inunctions, and had consumed four ounces of mercurial ointment and about two thousand eight hundred grains of iodide of potassium. All headache disappeared after the fifth bath. During this time my physician saw me four times a week, and examined me thoroughly once a week. I continued the baths one week after discontinuing medicine, and left the city on the 27th of December, fifteen pounds lighter than when I entered it, but feeling better than I had for years.

Before my inoculation I was of robust constitution, rarely experienced the sensation of fatigue, and had almost constant color in my cheeks, and now I feel that I have regained all that I lost during my illness. The "mixed treatment" in my case was more successful than the treatment by mercury alone. Several times I watched the action of mercury alone on my enlarged cervical glands, and then the action of mercury with iodide of potassium, and the enlargement disappeared more readily under the latter treatment.

Hot Springs owes its reputation to the waters, the mild climate, and the change of air and scene, which is always beneficial to the invalid, and its curative effects are due largely, I think, to the implicit faith many patients have in it, and to the fact that they make a business of getting well while there. The treatment, however, without mercury and iodide of potassium would be unsuccessful, as was shown in the case of a medical man who, a few years ago, located himself at the springs and professed to cure syphilis without mercury. Of course, people flocked to him, so that his practice was phenomenal, and, although he is, according to his own statement, as strong in his belief to-day as his patients were a few years ago but are not now, his business has declined to the patronage of those few skeptics who could not be induced to use mercury in any form or dose. Many others returned to the springs a year or two after their first visit, but not to this man. The toleration by the system of such enormous doses of mercury and iodide of potassium for weeks, and with some for months, can only be explained by the theory of their rapid elimination. The fœtor of the patient's breath, which elsewhere is so common, is rarely noticed here.

I became intimately acquainted with a man who had taken twelve ounces of mercurial ointment and twelve ounces of the iodide without showing any toxic effect. He was under my close observation for seven weeks. I saw many who were suffering from the effects of the mineral, but their condition could usually be traced to taking cold, an indiscretion in diet, or indulgence in tobacco; one man, whose system seemed intolerant of the effect of mercury, became salivated in a few hours after partaking of a piece of lemon-pie; another after eating an apple. Smoking is sure to blister the tongue or bring out mucous patches, it being impossible to distinguish between the two. I underwent the experiment with most gratifying results, thereby confirming Dr. Garnett in his opinion that a man with syphilis should never use tobacco, and that if he did he might even develop a cancer of the tongue.

A visit to the springs brings one in contact with all of the different forms of specific paralysis, from a ptosis of the lid to hemiplegia and paraplegia, and they get well. One patient of Dr. Garnett's, who had well-marked aphasia and in whom he diagnosticated a gummy tumor of the brain, left the springs apparently cured.

Old leg ulcers are treated at the springs by bathing with and drinking the waters alone, and it is said get well.

The reader may ask why such enormous doses of medicine are given. Dr. Garnett says that his long experience at the springs (thirteen years) has given him abundant opportunities to test the relative merit of large and small doses upon thousands of cases. When asked if there is any special virtue in the water, he replies: "I don't know, but the patients recover, and I can show you records of hundreds of cases in which all traces of the disease have been lost. Each patient is requested to report his condition every few months."

Note.—Since my return I have taken no medicine, and up to date (April 11, 1887) there has been no recurrence of symptoms.

Correspondence.

TELEGRAPHIC LETTER FROM CHICAGO.

The Thirty-eighth Annual Meeting of the American Medical Association.

Chicago, *June 10, 1887.*

It was evident on Tuesday, the first day of the meeting, that the attendance was to be large; about 850 delegates and permanent members were registered before the close of the day. The meeting was called to order shortly after eleven o'clock. The preliminary proceedings included a brief but very appropriate address of welcome by the Mayor, after which the president of the association, Dr. E. H. Gregory, of St. Louis, was introduced, and proceeded to deliver his address.

An article criticising the principles supposed to actuate the association having appeared in one of the morning newspapers, a resolution was offered condemning the tone of the article. It is much to the credit of the meeting that it promptly voted to lay the resolution on the table, and it is also to the credit of the mover that, the following day, he asked leave to withdraw it, basing his action on the fact that the newspaper had corrected its objectionable statements.

The second day's session was opened with a vote to postpone the reading of the addresses set down on the programme, and proceed to the consideration of business matters. Dr. Toner then read the report of the Board of Trustees for the Publication of the Journal, showing a total circulation at the date of the report, March 31st, of 4,387. Dr. Davis presented the report of the Special Committee on Changes in the Plan of Organization and By-laws, appointed last year. The report did not recommend any radical changes in the plan of organization, but it did recommend certain minor changes in the Constitution and By-laws, referring chiefly to the method of receiving "members by application," an increased number of whom was desirable in order to swell the revenue. It was recommended that such members should be drawn only from the members of organizations entitled to representation in the association. The report further recommended certain changes in the Constitution and By-laws thought to be necessary to facilitate the business of the association, especially the formation of a General Committee to take the place of the present Nominating Committee, and to meet on the day preceding each annual meeting of the association and as often as necessary during that week, for the transaction of general business. In addition, the report recommended a specific method of choosing the Board of Trustees for the Publication of the Journal, and defined the powers and duties of the board, which were to include the appointing of the editor and assistant editor, the procuring and control of matter for publication, the fixing of the editors' salaries, etc. A further amendment recommended looked to the replacement of the present addresses of chairmen of sections by addresses in general medicine, in general surgery, and in public medicine by eminent members of the profession invited to prepare and deliver them. After the report had been read, a motion to adopt it, and then another to accept and adopt it, produced some confusion, which was intensified by a misunderstanding as to whether the proposed amendments to the Constitution could be legitimately acted upon without lying over for another year. Dr. Davis stated it as his impression that, inasmuch as the action taken in appointing the committee last year had virtually forecast the nature of its report, it was competent for the meeting to look upon the proposed amendments as having been under consideration for a year; at the same time, he protested that on no consideration of mere expediency would he favor any action that could properly be criticised as irregular. The meeting coincided with Dr. Davis, and passed a motion to that effect, but by a small majority (272 to 232).

The first business of importance that came up on Thursday was the report of the Committee on Nominations, as follows: For president, A. Y. P. Garnett, of the District of Columbia; for vice-presidents, Duncan Eve, of Tennessee, Darwin Colvin, of New York, C. J. O'Hagan, of North Carolina, and A. Stedman, of Colorado; for librarian, C. H. A. Kleinschmidt, of the District of Columbia; for treasurer, R. J. Dunglison, of Pennsylvania; for assistant secretary, A. S. Ransohoff, of Ohio; for trustees for the publication of the "Journal," Leartus Conner, of Michigan, E. O. Shakespeare, of Pennsylvania, and W. T. Briggs, of Tennessee. The report also appointed the next meeting to be held in Cincinnati, beginning on the second Tuesday in May, 1888. The report was adopted.

A statement made by Dr. Davis, to the effect that, under the amendments to the Constitution adopted on Wednesday, it would be necessary to proceed now to the appointment of members of the General Committee, provoked a relapse of the muddle of the day before. It was promptly quelled, however, by the action of the president, who remarked that he believed that there was a great deal of dissatisfaction at the course taken on Wednesday (a voice: "a *great* deal of it"), and that he felt that he himself had been the head and front of the offending; yesterday's rulings had been wrong in a measure, and he would now rule that the amendments to the Constitution must lie over, but that those to the By-laws had been adopted.

The address in obstetrics was read by the chairman of that section, Dr. F. M. Johnson; the address in State medicine by Dr. G. H. Rohé; and the address in diseases of children by Dr. J. S. Knox. The last-named address met with great favor on account of its brevity. The treasurer reported a balance of $143.77 on hand. It was voted to subscribe for ten copies of the "Index Medicus," and, after considerable discussion, it was voted to appropriate $1,000 for the International Medical Congress.

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ALCOHOL AS AN ARTICLE OF FOOD.

Few of those who have read the early numbers of the "Practitioner" are likely soon to forget the vigor with which the late Dr. Anstie contributed to a discussion carried on in that journal of the question as to whether alcohol taken into the system was used up, or was excreted as such; in other words, whether it could be looked upon as a food. At about the same time, Professor Binz, of Bonn, was engaged in investigating the effect of alcohol on the bodily temperature. Anstie and Binz were both agreed that, taken in moderate quantities, alcohol was almost if not entirely used up in the system. Some recent researches carried on in the Pharmacological Institute at Bonn by Bodländer and Geppert, accounts of which have been published respectively in the "Zeitschrift für klinische Medicin" and the "Archiv für experimentelle Pathologie und Pharmakologie," seem to be accepted by Binz as supplementary to his own investigations, and in a recent issue of the "Centralblatt für klinische Medicin," of which he is one of the editors, he gives a *revue critique* of Bodländer and Geppert's work, together with that of Wershoven and Schmid, also carried on at the same institution and likewise regarded by Binz as in some sense a continuation of his own. Bodländer and Geppert studied the effects of alcohol on the respiratory exchange of gases, while Wershoven and Schmid dealt with its influence on the cutaneous transpiration and the radiation of heat. It is with Bodländer and Geppert's inquiries only that we shall concern ourselves at present.

Bodländer repeated Zuntz and Wolfers's experiments, using an apparatus specially devised by himself for the purpose, and almost always observed a diminished appropriation of oxygen and elimination of carbon dioxide, the reduction in the amount of oxygen absorbed amounting on an average to 15·41 per cent. in the dog and to 3·13 per cent. in the rabbit, and that of the carbon dioxide given off amounting to 14·97 per cent. in the dog and to 7·74 per cent. in the rabbit. The dose of alcohol which caused this reduction was 1·6 ccm. in one dog and 3·9 ccm. in another to each kilogramme of the animal's weight, and 1·4 ccm. in the rabbit. The experiments were so conducted that the animals, being kept unchained under a roomy tower, were not subjected to other disturbing influences. Bodländer concludes that alcohol is burned up in the system, thus protecting either the constituents of the body or other articles of food against oxidation, and so much the more from the fact that the total oxidation is not increased, but is diminished.

The objection that the action of alcohol on the human economy may be wholly different is met by Geppert's experiments, which were made on four adult persons, two of whom were accustomed to the moderate use of spirits, while another took little or no alcohol, and the other was an habitual drinker. The dose of absolute alcohol varied from 30 to 75 ccm., for the most part simply diluted with water and sweetened; in a few instances wine and cognac were used, their alcoholic strength having been ascertained beforehand. The apparatus was so arranged as to measure both the oxygen inhaled and the carbon dioxide expired. It was found that the doses of alcohol mentioned had no considerable effect on the imbibition of oxygen, and that the oxidation going on in the organism remained the same; the amount of carbon dioxide given off likewise continued constant or was slightly reduced. Alcohol acts, therefore, like any other respiratory nutrient. In a state of repose, the quantity of oxygen appropriated is very nearly unvarying; it may be increased by muscular or glandular activity, but not by the mere introduction of oxidizable material. Since Binz's experiments proved the almost complete disappearance of alcohol in the body, it follows that its combustion uses up a part of the oxygen that would otherwise attack different material, and therefore that its presence saves that other material to the body. Thus is explained the diminished excretion of carbon dioxide often observed, since, according to the chemical composition of the oxidized body, a given amount of oxygen furnishes very different quantities of that gas.

Riess's observations of the reduction in the excretion of the leading elements of the renal secretion under the influence of alcohol—the urea being diminished from 15 to 22 per cent., the uric acid from 11 to 16 per cent., the sulphuric acid from 2 to 22 per cent., and the phosphoric acid from 11 to 34 per cent.—are strikingly confirmatory of the conclusion that alcohol spares the tissues from oxidation; and Zuntz has lately put on record observations essentially to the same purpose as Geppert's. Qualitatively, says this author, the effect of alcohol on the respiration differs in no wise from that of other nutrients. Thus there is now a practical agreement in this conclusion, which was for some time made doubtful by Wolfers's experiments on animals. Its legitimate application, says Binz, can, of course, be made to the sick only, for to persons in health alcohol as an article of food is, to say the least, superfluous.

HYPNOTISM AS AN ANÆSTHETIC.

In the May number of the "Annales de gynécologie" M. Auvard and M. Varnier give an exceedingly interesting account of an accouchement that took place last April under their observation at the hôpital Lariboisière, in which hypnotism was employed as an anæsthetic. The patient, a laundress, twenty-nine years old, belonged to a highly neurotic family and had for years suffered with convulsive hysterical attacks. She was admitted into the hospital in the seventh month of her fourth pregnancy, and it was accidentally discovered that she could be hypnotized easily by simple compression of the eyeballs. It was resolved that the effect of hypnotism as an anæsthetic should be tested at the time of labor, and, to increase the chances of success, she was regularly drilled, so to speak, by being hypnotized daily. It was soon found practicable to make her sleep for three hours in succession, and wake spontaneously at a time previously agreed upon. During this period of training it was ascertained that she was also readily "suggestible." On one occasion she was instantaneously relieved of an intense dental neuralgia by being hypnotized. The power of "suggestion" over her was forcibly illustrated by the fact that, although she was known to be extremely desirous of remaining in the hospital through the rest of her pregnancy, when it was suggested to her that she should go to the director and ask for her discharge, she at once proceeded to make preparations accordingly, and at the end of fifteen minutes was found making parcels of her belongings, but half-clad, fidgety, and in tears. To all questions she answered, "I want to go away; I don't know why, but I want to go." So thoroughly had the "suggestion" become fixed upon her that it was found necessary to hypnotize her anew, in order to rid her of it by a "counter-suggestion." On emerging from this second hypnosis, she set about arranging her clothes again as if for a prolonged stay.

On the 17th of April uterine contractions set in, recurring every ten minutes. Each pain caused her to cry out, toss about, and show signs of excessive excitement. By compression of the eyeballs for one minute she was thrown into a state of hypnotic lethargy in which she was totally insensible to pain. The contractions lasted rather more than two hours, and during that time the compression of the eyeballs was repeated twice. She showed no sign of suffering from the uterine action, but usually heaved a deep sigh as the individual contractions passed off. Once or twice she complained of pain about the heart and made efforts at vomiting. It was suggested to her that her distress about the heart was now at an end, and her attempts to vomit ceased at once. The action of the uterus then remained in abeyance for more than four days, when the pains returned, occurring at first every ten minutes, and presently as often as once in two or three minutes. The child's head was now found engaged, the membranes had ruptured, and the pains were very severe. The eyeballs were compressed for five minutes, and, although a strong contraction occurred during those five minutes, the patient complained but little. An hour and a half elapsed before the child was born. Most of the uterine contractions were accompanied by only very slight evidences of suffering, and in the intervals between them the woman lay as motionless as a statue. Toward the close, it was found difficult to renew the hypnotism, and finally, as the head appeared at the vulva, carrying the anterior lip of the cervix before it, the patient became indescribably excited, and cried out incessantly. This time it was found impossible to hypnotize her anew, and three pains occurred before the child's expulsion was completed. Of this suffering, however, the woman subsequently had no remembrance. Post-partum hæmorrhage took place, and the patient was again hypnotized, to allow of an intra-uterine injection of hot water, which, as well as combined expression and extraction of the placenta, was entirely painless. Severe after-pains were at once allayed by hypnotism and suggestion. After that the progress of the case was perfectly normal.

MINOR PARAGRAPHS.

MEDICAL REGISTRATION IN PENNSYLVANIA.

A Pennsylvania physician, a graduate of the College of Physicians and Surgeons, of New York, writes to us that he finds that he can not register as a practitioner in Pennsylvania until he has been examined and granted a certificate by some Pennsylvania medical faculty. Our correspondent has made inquiries of two of the Philadelphia colleges, and finds that they interpret the law as requiring them not merely to certify to the genuineness of diplomas, but to satisfy themselves of candidates' fitness to practice medicine, which they can do only by an examination, and that for this examination they require each applicant to pay a fee. Our correspondent considers this state of things to be a grievance. We cordially agree with him, but the colleges are not to blame; the fault lies with the law. In our opinion, the State has no right to exact a test of a man's fitness to practice any profession unless it pays the expense of applying the test. We have an equivalent law in this State, however, and therefore New Yorkers have no ground of complaint against Pennsylvania in this matter. We can only advise our correspondent to undergo the required examination and pay the fee, for the colleges seem to us correct in their interpretation of the law.

THE QUESTION OF PAIN AFTER DECAPITATION.

In a recent communication to the Paris *Société de biologie* ("Progrès médical"), M. Paul Loye reported his observations on movements in the head after decapitation. He has found that the mouth opens somewhat as the head drops, and that there are convulsive movements of the tongue and the eyelids; furthermore, that yawning motions set in in fifteen seconds and cease in a minute and a half. During this time no evidence of volition is to be observed, and the movements mentioned differ in no respect from those that take place in an animal that is in a state of profound anæsthesia at the time of decapitation. The injection of blood into the detached head prolongs the movements, and even gives rise to contractions of the facial muscles resembling those that indicate suffering, about which, however, there seems to be nothing voluntary. The experiments were made on dogs.

THE NEW FRENCH CABINET.

It is much to be regretted that the vicissitudes of French politics, which we can not pretend to understand, seem to have prevented the retention of M. Berthelot, the distinguished professor of organic chemistry, in the position of Minister of Public Instruction. M. Berthelot being excluded, the Rouvier cabinet, as finally settled upon, appears not to include a single member trained to scientific pursuits.

A SPANISH THESIS FOR THE DOCTORATE.

A *feuilletoniste* relates an amusing occurrence in a recent number of the "Gazette hebdomadaire de médecine et de chirurgie." A medical licentiate came up for examination for the degree of M. D. before the Madrid faculty, for which he wrote a thesis on "The Progress of Modern Surgery." The essay was published in the usual form, with the following note printed at the head of the first page: "At the end of this thesis will be found the notes of the professors composing the examining tribunal." Turning to the end, the writer found a note by the first professor to this effect: "Although this memoir is defective, I think it had better be received, if only as a guide in the candidate's oral examination," to which the other professors had added: "We think so, too." We agree with the writer that it is cruel to compel a candidate to publish an unfavorable criticism of his work.

PROFESSOR BILLROTH.

It is with great regret that our readers must have noticed recent press dispatches announcing the serious illness of the great Vienna surgeon. By the latest reports it appears that his condition is indeed such as to occasion grave apprehension, but we trust that the feeling of hope which the "Lancet" draws from a bulletin mentioned by its Vienna correspondent will prove to be well founded. The disease is reported as bronchitis complicated with cardiac weakness. Professor Billroth's age is fifty-eight.

ACTORS AND THE HOSPITALS.

At the recent annual meeting of the organization known as the Actors' Fund, the president, Mr. Palmer, spoke with justifiable pride of the readiness with which members of his profession give their time, and managers the use of their theatres, in aid of charitable undertakings. He is reported to have added: "It is a fact that in this very city a hospital which has received many favors from the dramatic profession, which was in fact originally started by funds from a benefit, refused to take one of our beneficiaries except for a price we were unable to pay." We trust that some satisfactory explanation of this course on the part of the institution alluded to may be forthcoming, for it would be highly unseemly to ignore the generosity so often displayed by actors.

A PROPOSED MODIFICATION OF BERGEON'S TREATMENT.

A contributor to the "Union médicale," writing under the pseudonym of *Simplissime*, professes to have received an anonymous letter setting forth the inconveniences of Bergeon's method of introducing hydrogen sulphide and carbon dioxide into the intestine, suggesting that these gases make up a great part of the ordinary intestinal flatus, and proposing the use of articles of food that are known to produce flatulence, the patient being instructed to oppose the expulsion of the gas by a vigorous and determined contraction of the sphincter. Beans are mentioned as worth trying.

A NEW AUSTRIAN PHARMACOPŒIA.

The "Lancet's" Vienna correspondent states that the Minister of the Interior has appointed a commission of physicians and pharmacologists to prepare a seventh edition of the Austrian Pharmacopœia, nearly twenty years having elapsed since the last revision appeared. It is added that among the new drugs to be recognized are pyrogallic acid, amyl nitrite, the bromine salts, antipyrine, chrysarobin, cocaine, tannate of mercury, cundurango, quebracho, carbonate of lithium, menthol, naphthal, naphthaline, salicylate and sulphate of physostigmine, thymol, vaseline, and hydrochloride of pilocarpine.

YELLOW FEVER AT KEY WEST.

In view of the disquieting headway made thus early in the summer by the outbreak at Key West, it is satisfactory to learn that Surgeon-General Hamilton, of the Marine Hospital Service, has authorized the employment of skilled nurses for the sick at the expense of the Government. Recent dispatches represent the disease as spreading through the town, and the place is said to be quarantined by all ports except New York and Havana.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 7, 1887:

DISEASES.	Week ending May 31.		Week ending June 7.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	8	4	8	2
Scarlet fever	64	15	66	12
Cerebro-spinal meningitis	4	4	6	5
Measles	65	7	58	3
Diphtheria	116	45	122	50
Small-pox	11	3	11	4

The New Jersey State Medical Society will hold its annual meeting on Tuesday and Wednesday of next week, at Beach Haven. We are informed that a large attendance of the New York profession is desired, and that a special effort will be made to render the occasion enjoyable to those of them who may be present. We presume that the State of New York is referred to, and not merely the city, and we feel sure that those who are able to go from New York to attend the meeting will find it profitable as well as pleasant.

The American Medical Association.—The programme of the thirty-eighth annual meeting, held in Chicago on Tuesday, Wednesday, Thursday, and Friday of this week, included the following in the general sessions: *Tuesday.*—"Cell Antagonism" (the president's address), by Dr. E. H. Gregory, of St. Louis. *Wednesday.*—An address by the chairman of the Section in Surgery and Anatomy (Dr. H. H. Mudd, of St. Louis); an address by the chairman of the Section in Practice of Medicine (Dr. J. S. Lynch, of Baltimore); the annual report of the Board of Trustees for the Publication of the Journal, by Dr. J. M. Toner, of Washington. *Thursday.*—An address by the chairman of the Section in Obstetrics and Diseases of Women (Dr. F. M. Johnson, of Missouri); an address by the chairman of the Section in Ophthalmology, Otology, and Laryngology (Dr. X. C. Scott, of Ohio); an address by the chairman of the Section in Diseases of Children (Dr. G. S. Knox, of Chicago). *Friday.*—An address by the chairman of the Section in State Medicine (Dr. G. H. Rohé, of Baltimore); an address by the chairman of the Section in Dental and Oral Surgery (Dr. J. S. Marshall, of Illinois); an address by the chairman of the Section in Medical Jurisprudence (Dr. I. N. Quimby, of Jersey City); a report of the Standing Committee on Meteorological Conditions and their Relations to the Prevalence of Disease, also concerning the Collective Investigation of Disease, in coöperation with the committee of the British Medical Association, by the chairman, Dr. N. S. Davis, of Chicago.

The American Orthopædic Association.—The organization of this new society will be completed at a meeting to be held at the New York Academy of Medicine on Wednesday and Thursday, the 15th and 16th inst., the sessions beginning at 2.30 P. M. and 8 P. M. Papers are expected to be read by Dr. Judson, Dr. Gibney, Dr. Shaffer, and Dr. Sayre, of New York, Dr. Bradford, of Boston, and others.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 29, 1887, to June 4, 1887:*

Fryer, B. E., Major and Surgeon. Granted two months' leave on account of sickness, with permission to apply for an extension. S. O. 28, Division of the Pacific, May 28, 1887.

Brown, Paul R., Captain and Assistant Surgeon. Granted leave of absence for four months. S. O. 126, A. G. O., June 2, 1887.

Perley, H. O., Captain and Assistant Surgeon. Relieved from duty at Fort Maginnis, Montana Territory, and ordered for temporary duty at Fort Snelling, Minnesota. S. O. 49, Department of Dakota, May 23, 1887.

Wood, Leonard, First Lieutenant and Assistant Surgeon. Ordered for temporary duty at Fort Huachuco, Arizona Territory, and relieved from duty at Headquarters, Department of Arizona. S. O. 126, A. G. O., June 2, 1887.

Suter, William N., First Lieutenant and Assistant Surgeon (recently appointed). Ordered for temporary duty at Washington Barracks, D. C. S. O. 122, A. G. O., May 27, 1887.

Society Meetings for the Coming Week:

Monday, *June 13th:* New York Academy of Medicine (Section in Surgery); Lenox Medical and Surgical Society (private); New York Ophthalmological Society (private); New York Medico-historical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *June 14th:* Oregon State Medical Society (first day—Portland); New York Medical Union (private); Medical Societies of the Counties of Chemung (annual—Elmira), Chenango (semi-annual), Delaware (annual), Erie (semi-annual—Buffalo), Genesee (annual—Batavia), Livingston (annual—Geneseo), Onondaga (annual—Syracuse), Oswego (annual—Mexico), Schenectady (semi-annual—Schenectady), Steuben (annual—Bath), Warren (annual—Lake George), and Wyoming (Warsaw), N. Y.; Newark, N. J. (private), and Trenton, N. J. (private), Medical Associations.

Wednesday, *June 15th:* Oregon State Medical Society (second day); Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); Medical Societies of the Counties of Allegany (annual) and Tompkins (annual—Ithaca), N. Y.; New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

Thursday, *June 16th:* Oregon State Medical Society (third day); New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *June 17th:* Chicago Gynæcological Society.

Saturday, *June 18th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Letters to the Editor.

THE APPLICATION OF HOT WATER TO OPERATION WOUNDS.

Jersey City, N. J., *June 4, 1887.*

To the Editor of the New York Medical Journal:

Sir: In the "Medical Record" for March 19, 1887, there appears an article by Dr. W. Gill Wylie, entitled "Observations on the Use of Hot Water within the Peritoneal Cavity during and after Laparotomy, to Prevent Shock," etc., in the course of which there occurs the following language: "After the pedicle was tied and the tumor removed, the oozing was checked by the free use of hot-water irrigation to the whole peritoneal cavity. . . . I noticed that not only was the bleeding checked by the hot water, but that the indications of shock, which were present to an alarming extent—that is, very feeble heart's action, cold perspiration, etc.—were at once relieved by the hot water. . . . The result was magical. After this the symptoms of shock did not return, and at no time was there a subnormal temperature."

It affords me much pleasure to indorse the practice of Dr. Wylie in the cases alluded to, as it is further corroboration of the value of the method of treatment of open wounds advocated by me, and given to the profession in a paper read by me in the Surgical Section of the American Medical Association at its meeting held in Washington in May, 1884, on the subject of "Railroad Injuries of the Extremities of the Human Body, with Observations on the Site of Amputation and Subsequent Treatment of the Stump," and published in the "Journal of the American Medical Association," vol. iii, page 372, in the following words: "It has been my practice for many years, after the vessels have been tied, to sponge the surface of the stump with water a little below the boiling-point, not only for the purpose of dislodging any coagula that may have formed in the interstices of the tissues, *but to stop further oozing.*" Also, in a paper read by me before the New York County Medical Association, February 16, 1885, on "The Protective Treatment of Open Wounds," and published in the "New York Medical Journal," vol. xli, page 237, I used the following language: "My practice is, and has been for nearly six years, immediately the large vessels have been tied, *to apply water slightly below the boiling-point freely and continuously to the abraded surface* until all oozing is stopped, the parts are thoroughly glazed, and the red hue of the tissues is slightly deadened. . . . The effect is not only to form the protective shield before mentioned, from autogenous material, which is always available, *but it mitigates shock, it promotes reaction*, and accelerates healing in a marked degree." After considering the question of shock, both primary and secondary, I further remarked: "It is under these circumstances that the stimulating effect of heat transmitted to the heart is most marked. . . . Before I adopted the method of treatment under consideration, many patients died after apparent reaction from primary shock in the manner described above; since its adoption, no death from either primary or secondary shock has occurred in my practice."

It is not the particular locality of the operation in which this method may have been applied, but the principle of therapeutics involved in the subject under consideration, with which we have to do. In conclusion, I would state that it gives me pleasure to congratulate Dr. Gill Wylie on his readiness to appreciate a real advance in the treatment of open wounds, but at the same time most decidedly demur to any claim as to priority on his part to the method of treatment of parts involved in surgical operations by the application of *hot water.*

Theodore R. Varick, M. D.,
Medical Director of and Surgeon to St. Francis's Hospital and the Jersey City Hospital.

WHAT IS LITERARY PIRACY?

Leicester, England, *May 12, 1887.*

To the Editor of the New York Medical Journal:

Sir: I should like to know whether a writer is justified in sending a communication which has already appeared in an American paper to an English one, or whether an editor can be justly accused of "piracy" in publishing such an article. Dr. Whitehead, Denver, Colorado, U. S. A., sent me ten blocks for a paper of his which had already appeared in the New York "Medical Record." I have his written consent to publish his article. The editor of the New York "Medical Record" has seen fit to accuse me of a grave charge in his issue of April 30th. I should be glad to know what your American customs are. My custom is to give an extra proof to any author who desires to publish his paper in any American journal. I know that an English paper can not be affected by this, and I do not see that I lose thereby. For instance, a paper by Mr. Lawson Tait, which was especially written for me, subsequently appeared in an excellent American medical paper—I have reason to believe, reprinted from one of my proof-sheets. I gave Dr. Bantock an extra proof of his article on "Listerism" to send to America. I published a paper by Dr. Phelps, of Chateaugay, N. Y. (with illustrations). I sent him a proof to the Langham Hotel, London, to utilize in the States, if he so desired. The paragraph in the New York "Medical Record" is utterly misleading, and, as I hope to visit the States, I should like my fellow-journalists to know the real facts of the case. If you have a rule on the subject, I should be glad to know it, as I am anxious to conform to the strictest code of American journalistic ethics.

I am yours truly,
THOMAS M. DOLAN, M. D.,
Editor of the "Provincial Medical Journal."

⁂ Concerning the particular case to which our correspondent refers, the "Medical Record" for May 28th says: "Dr. W. R. Whitehead writes that his article, published first in the 'Record,' and subsequently in the 'Provincial Medical Journal,' without acknowledgment, was sent to the latter journal by request, and with the understanding that due acknowledgment would be given."

Concerning the general question asked by our correspondent, we can speak for New York only, where we believe the invariable practice and sentiment of medical editors are in strict accord with what is stated in the following paragraph, which we take from the "British Medical Journal" for May 21, 1887: "We wish it to be distinctly understood that, when a manuscript is forwarded to the 'British Medical Journal,' it is implied that a similar manuscript has not been sent elsewhere, unless special notice of the fact be given; we shall regard any infringement of this rule as a breach of faith."

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of May 25, 1887.

The Vice-President, Dr. LEWIS A. STIMSON, in the Chair.

Motor and Sensory Paralysis of the Left Arm following Fracture of the Clavicle.—The VICE-PRESIDENT presented a patient, a man twenty-nine years of age, with the following history: On April 12, 1887, he fell from a height of about eight feet, striking upon the outer aspect of his left shoulder. He remained unconscious for an hour, and was then able to walk to the Presbyterian Hospital, a distance of about a mile. On examination, there was found a simple fracture of the left clavicle at the junction of the outer and middle thirds, without displacement, the symptoms being localized pain on pressure and crepitation when the fragments were moved. But a more singular and striking phenomenon was the condition of the left arm, which hung powerless by the side, and which, on examination, showed extensive sensory and motor paralyses without recognizable injury to its bony or soft parts. There was loss or diminution of tactile sensibility over an area beginning a little above the lower margin of the deltoid muscle, and covering the posterior surface and the external half of the anterior surface of the arm and forearm, the radial half of the hand, the thumb, and the index-finger. There was complete motor paralysis of the external scapular muscles, the deltoid, triceps, biceps, coraco-brachialis, and brachialis anticus, and the supinator and extensor muscles of the forearm. The extensors of the middle and terminal phalanges of the fingers (the interossei and lumbricales) were not involved. The arm could not be actively raised, abducted, or rotated; the elbow could not be flexed or extended, the forearm could not be supinated, and the only movements of the parts below the forearm that were possible were flexion and extension of the distal phalanges. The muscles reacted well to the faradaic current. During the six weeks that had elapsed since the accident the paralysis had persisted, and the limb had wasted notably, the wasting including the supra- and infra-spinatus muscles. The only recorded cases of which the speaker had knowledge, in which a fracture of the clavicle had been immediately followed by paralysis of the arm, were those of Earle[*] and Gibson.[†] In the former a sailor fell from the main-yard, broke his left collar-bone, and was unconscious for some time; when first seen by Earle, six days later, the arm was found to be entirely useless and paralyzed. Three weeks later sharp pains were felt, especially at the finger-tips, whenever the limb was moved, and occasionally when it was at rest; there was complete loss of sensation throughout the limb. Improvement followed the use of electricity and blisters. Earle mentioned that there was gradual recovery of power in the muscles of the scapula and the pectoralis major. In Gibson's case the falling branch of a tree caused a comminuted fracture of the collar-bone, and bruised the soft parts so severely that violent inflammation followed. The fragments were depressed behind and below the level of the first rib, and the brachial plexus was compressed, in consequence of which complete paralysis and atrophy of the entire limb followed. In two cases reported by Blassius,[‡] in which the patients were first seen one or more years after the accident, a fracture at or near the junction of the outer and middle thirds of the clavicle had united with marked angular displacement and approximation of the shoulder to the thorax, and in each the deltoid was atrophied.

A few other cases had been reported in which paralysis of the arm had been observed after an interval and had been attributed to the pressure of the dressings, especially to that of an axillary pad. In Gibson's case the attribution of the paralysis to the pressure of the depressed fragments upon the brachial plexus might be accepted as probably correct, but in the report of Earle's case there was nothing to show that either fragment was exceptionally displaced, and in this, as also in the speaker's case, the implication in the paralysis of the supra-scapular nerve, which was given off above the level of the clavicle, from the cord formed by the fifth and sixth cervical nerves, seemed to be almost a positive proof of some other cause. What that other cause might be was not indicated, so far as he could see, by any symptom that could guide to a choice among the several possible causes which suggested themselves, and a search through the works of a number of authors had not yielded any information. In Weir Mitchell's "Injuries of the Nerves" the only suggestion of the existence of such a class of cases was contained in the following clause (page 99): ". . . falls on the shoulder, or on the hand, being competent to cause palsies of the arm, we may expect to meet with the latter even in such cases of dislocation as put out of the question any possible compression of the nerves by the head of the humerus." But he dismissed the question of pathology and ætiology by saying that "on the whole it is more in accordance with modern views to see in the atrophy a consequence of nerve lesion, of which rheumatic or scrofulous inflammations of the joint are so apt to furnish examples."

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[*] Earle, "Med.-chir. Trans.," 1816, vol. vii, p. 175.

[†] Gibson, "Principles of Surgery," sixth edition, vol. i, p. 27.

[‡] Blassius, quoted by Gurlt, "Knochenbrüche," vol. ii, pp. 602 and 605.

The suggestion contained in the first of these quotations, that certain paralyses observed in connection with dislocations were not due to compression of the nerves by the displaced bone, was one that deserved attention in connection with the prognosis and treatment. Nerves that were disabled by pressure promptly regained, as a rule, their power of conducting impulses after the removal of the cause, but those that were due to the unknown conditions assumed to exist in the present, and in similar cases, were sometimes persistent.

Dr. Briddon asked if there was any reason to think that the patient was unconscious before he fell. The reporter replied in the negative.

Dr. Gerster asked if the patient might not have struck the object upon which he fell in such a way as to cause traction on the nerves.

The Vice-President replied that the man struck directly upon his neck and shoulder, in the manner described.

Dr. Gerster cited the case of a boy whom he had presented to the society two or three years before. The patient had been run over and sustained a fracture of the head of the humerus and the neck of the scapula, with extensive effusion. There had been almost complete paralysis of the limb, but recovery had subsequently been perfect.

Exsection of the Knee Joint for Tuberculosis.—Dr. Gerster read the following paper:

White swelling of the knee joint in adults of the laboring class can, for various external reasons, rarely be treated by orthopædic measures. In children a rational mechanical and general treatment will often reward the patience and skill of the physician by excellent results. Exsection of the infantile knee joint is to be avoided as long as possible on account of the great shortening that is caused by the removal of the epiphyses adjoining the knee, on which depends the growth of the thigh and tibia. In adults, exsection is the shortest and safest way of eliminating the tedious morbid process, and substituting firm ankylosis for a useless joint. Arthrectomy, or exsection of the capsular ligament alone, as suggested by Volkmann, has not been attended with good success in the experience of the author. Two cases—one in an adult, the other in a child—resulted in relapse of the tubercular affection, although great care was taken in removing the entire capsule. A third case was permanently cured.

Case I.—S. L., metal-worker, aged twenty-seven. February 28, 1882, arthrectomy and removal of the patella were done for fungous arthritis of the knee joint. Primary union of the wound followed. March 22d, a relapse occurred in the cicatrix, which gradually involved the articular aspects of the femur and tibia. Amputation of the thigh was performed by Dr. I. Adler.

Case II.—Fred. O., aged five years and a half. Tubercular arthritis of the knee joint. January 26, 1887, arthrectomy was performed at the German Hospital. March 22d, revision and scraping of the entire cavity on account of tubercular relapse. In May the boy was still under treatment.

Case III.—George K., butcher, aged twenty-six. July 6, 1882, arthrectomy and removal of carious patella were performed at the German Hospital. November 5th, discharged cured, with slight mobility of the joint.

In children, exsection should be strictly limited to the removal of actually diseased parts of the bones. By Schede's plan of dressing the wound, the hollow space remaining between the incongruent joint surfaces will be filled up by an organizing blood-clot, and firm union may be attained.

Case IV.—Eva G., aged eight. Osseal tuberculosis of the knee joint, with sequestrum in the external condyle; granular osteitis of the internal condyle; multiple cheesy deposits in the thickened capsule; subluxation backward of the tibia, with rectangular contraction. August 12, 1886, partial exsection of knee joint at Mount Sinai Hospital. After the removal of the sequestrum, a deep recess were left behind in the intercondylar notch. Patella and entire capsule were removed; the ham-string tendons were divided to prevent recontraction. The tibia was superficially pared, and the bones were held in apposition by a nail driven diagonally through femur and tibia. Plaster-of-Paris splint over a Schede's dressing. Several relapses in the popliteal space required repeated scrapings. The patient had one attack of erysipelas. By reason of these complications, cure was delayed. February 27, 1887, patient was discharged cured, with firm ankylosis.

Total exsection of the knee joint is usually done by the author in the following manner: After careful scrubbing and disinfection of the region of the knee, the foot and leg and the thigh of the diseased limb are wrapped in clean towels wrung out of corrosive-sublimate lotion. The limb is held elevated in the vertical position for five minutes to deplete its vessels, and the constricting elastic band is applied well up near the root of the thigh. The knee is flexed, and an incision, commencing at the middle of one condyle of the femur and extending in a semicircular line *above the patella* to the middle of the other condyle, is carried into the joint.

Note.—The transverse incision above the patella, proposed by Eugene Hahn, of Berlin, has many advantages over the incision made below the knee-pan. The chief one is the free access it affords to the bursa of the quadriceps, which must be carefully exsected along with the capsule.

The crucial ligaments are cut close to their attachment to the femur, and the patella, semilunar cartilages, and entire capsule, together with the bursa of the quadriceps, are exsected with mouse-tooth forceps and curved scissors. Care must be taken not to overlook some small bursæ situated behind the head of the tibia, which regularly communicate with the interior of the joint. The condyles of the femur are sawed off, the plane of section corresponding to the transverse diameter of the epiphysis of the femur.

Note.—Disregard of this rule will lead to ankylosis in the bow-leg position.

The articular aspect of the tibia is sawed off at a right angle to the long axis of this bone. All visible orifices of vessels are secured by ligature. They can be made visible by compressing the vicinity of the wounds with both hands. If the transverse incision has not been made long enough to permit of an easy arrangement of the drainage-tubes in the angles of the wound, it should be sufficiently lengthened. The inner ends of the tubes should reach into the popliteal space, just behind the sawn surfaces, and the tubes must not be compressed and occluded by the tension of the soft parts surrounding them. The limb is placed upon a long cushion covered with a clean towel wrung out of corrosive-sublimate lotion, and, while the sawn surfaces are held in exact apposition, two or four long steel nails, previously well disinfected by heating in an alcohol flame, are driven diagonally through femur and tibia, so as to firmly lock the bones in the desired position. The cutaneous incision is united by a sufficient number of catgut stitches. The limb is raised by the foot from the cushion, which is then removed. Strips of disinfected rubber tissue are slipped under the safety-pins, securing the ends of the trimmed drainage-tubes, and an oblong compress of iodoformed gauze is laid over the entire line of union. A suitable number of sublimated gauze compresses are arranged around the knee joint, and two short lateral splints of veneer or thin board are firmly bandaged on to serve as a deep support. Over these comes an ample external dressing of corrosive-sublimate gauze, also firmly held down by a gauze bandage. The towels are removed, and the uncovered parts of the limb are enveloped in a layer of borated cotton to equalize the outline of the extremity. Two long lateral pasteboard splints, held down by a muslin or crinoline bandage, complete the dressing for children or adolescents. The more voluminous limbs of adults are better secured by a solid circular plaster-of-Paris splint. The limb is vertically elevated and the constricting rubber band is removed. Return of circulation is attested by the pink color of the toes. As soon as these turn pale, the extremity can be brought into the horizontal position.

If asepticism has been well maintained, little aseptic fever and no severe pain will follow the operation. The dressings should remained undisturbed for thirty days to afford a good chance for bony union. After thirty days the splints and dressings can be removed, and the nails and drainage-tubes can be withdrawn. The remaining sinuses are to be dressed lightly, the limb is incased in a silicate-of-sodium splint, and the patient is ordered to walk about on crutches, whether osseous union is present or not. Gradually the use of crutches is dispensed with, and the patient generally learns to walk very well on an elevated sole compensating for the shortening.

In twelve cases of total exsection done by the author for tuberculosis, eleven patients recovered; one died of meningeal tuberculosis.

Case I.—Fred. F., aged seven. Osseal relapsing tuberculosis after arthrectomy done by Dr. F. Lange in June, 1885. March 4, 1884, total exsection, done at the German Hospital, reveals two periarticular abscesses and five cheesy foci in tibia and femur. Suppuration of wound. March 10th, incision of abscess on outer aspect of knee. April 23d, separation of epiphysis of tibia. Separated epiphysis was firmly united to femur. In April symptoms of meningeal tuberculosis developed, to which patient succumbed on May 31st.

In one of the remaining eleven cases amputation of the thigh became necessary on account of suppuration.

Case II.—H. D., professional athlete, aged thirty. Extensive destruction of right knee joint by tuberculosis complicated with pyogenic infection. The knee, leg, and thigh contain a large number of abscesses. Profuse secretion from seven fistulæ. The case was not suitable for exsection, and amputation was advised. But, at the patient's urgent request to make an attempt to save his limb, February 14, 1884, total exsection was done at the German Hospital. As suppuration was expected, the extremity was fixed to an interrupted dorsal suspension splint made of hoop-iron and plaster bandages. Profuse suppuration followed, with evident prostration, and on April 19th amputation of the thigh was performed. The wound healed by granulation, and in June patient was discharged cured.

Ten cases were cured with preservation of the limb. In nine of these, firm bony ankylosis was secured. One case terminated in the formation of ligamentous union.

Case I.—Niclas G., carpenter, aged fifty-four. Synovial tuberculosis with high temperatures and emaciation following a slight traumatism. Contraction of knee at an acute angle, with constant violent pain. February 19, 1886, at the German Hospital, puncture yielded a small quantity of turbid bloody serum. In anæsthesia the limb was straightened and the joint was incised, irrigated, and drained. The fever at once disappeared, but flocculent pus commenced to exude from the tubes, confirming the assumption of tuberculosis. In view of the patient's age, his wretched general condition, due partly to disease and to chronic alcoholism, amputation was thought to be advisable. The plan of operation was changed at the operating-table, and total exsection of the knee joint was done. Hæmorrhagic synovitis and a large cheesy deposit in the bursa of the quadriceps were found. Five nails, aseptic dressing, paste-board splints. Temporary compression by Martin's elastic bandage to control secondary oozing. Esmarch's constrictor was removed after the completion of the bandage. Feverless course of healing. Change of dressings on the twenty-second day. Four nails were found loose, and were withdrawn. May 8th, scraping of drainage-tracks and removal of fifth nail. Ligamentous union. Plaster splint. June 12th, sinuses healed; patient walking without stick or crutches in a light silicate-of-sodium splint, though union of the bones is not perfect.

The other nine cases were in brief as follows:

Case II.—Willie B., aged three and a half. Osseal tuberculosis, with fistulæ. February 2, 1879, total exsection. April 2, patient discharged cured.

Case III.—Charles H., aged twelve. Osseal tuberculosis, with fistulæ, contracture and subluxation backward. June 13, 1884, total exsection at the German Hospital. Hahn's incision, two nails, plaster-of-Paris splint. Some fever and deep-seated œdema of the region of the knee followed. Sawn surfaces and flesh wound united by primary union. The nails being withdrawn on the 12th day, some pus exuded from their tracks, showing that the nails had apparently not been well disinfected. Several revisions were required on account of unhealthy granulations in the drainage-holes. February 4, 1884, patient discharged, with firm ankylosis and no fistula.

Case IV.—S. B., aged nine. Osseal tuberculosis, several fistulæ, subluxation. August 26, 1885, total exsection at Mount Sinai Hospital. Nails; plaster splint. September 25th, change of dressing. Drainage-tubes and nails were withdrawn; firm ankylosis. October 10th, patient discharged cured.

Case V.—Leonard P., waiter, aged nineteen. Synovial tuberculosis, no fistula. August 27, 1885, total exsection at the German Hospital. September 27th, plaster splint, dressings, drainage-tubes, and nails removed. October 9th, sinuses healed. October 19th, discharged cured, with firm ankylosis.

Case VI.—Bertha D., aged twelve. Synovial tuberculosis of five weeks' standing. Continuous high fever, with rapid emaciation. Puncture yielded scanty bloody serum. January 21, 1886, total exsection at Mount Sinai Hospital. The capsule was found studded with innumerable miliary tubercles. The fever disappeared immediately after the operation. February 20th, plaster splint removed; wound healed by first intention. March 10th, patient discharged cured, with firm ankylosis.

Case VII.—Lizzie B., aged twenty. Osseal tuberculosis of eighteen years' standing; rectangular contraction with subluxation backward. February 12, 1886, total exsection at German Hospital. March 10th, change of dressings; primary union; three nails and drainage-tubes were removed. April 4th, patient complained of a good deal of pain in walking. A hard body could be felt under the skin on the outer aspect of the tibia. An incision exposed the head of the fourth nail, which had not been found at the first change of dressings. It was withdrawn with some force, a little blood exuding from its track. May 9th, patient discharged cured.

Case VIII.—Anna S., aged twenty-two. Synovial tuberculosis, with osseal ulceration of articular surfaces of both femur and tibia. May 10, 1886, total exsection at the German Hospital. June 12th, first change of dressings, primary union of soft parts, delayed union of the bones. August 1st, discharged cured, with firm ankylosis.

Case IX.—Katie W., aged eighteen. Synovial tuberculosis, with caseous deposits in several recesses of the capsule, notably around and behind the crucial ligaments. Caries of articular surfaces. May 18, 1886, total exsection at the German Hospital. Slight fever following the operation, the dressings were removed May 26th. Marginal slough of the upper edge of the skin wound. June 17th, nails were removed; firm ankylosis. July 26th, patient discharged cured.

Case X.—Emma F., aged twenty-seven. Synovial tuberculosis, with caries of articular surfaces. April 18, 1887, total exsection. April 22d, considerable secondary oozing necessitated a change of external dressings and plaster splint. Feverless course. May 23d, change of dressings, primary union, firm ankylosis. Tubes and three nails were removed; a fourth nail could not be found.

Note.—To prevent the disagreeable necessity of cutting down and searching for a nail buried in the tissues, Dr. F. Lange's suggestion of fastening a silk ligature to the head of each nail before driving it in seems to be very appropriate.

After finishing his paper, the reader added that he did not believe that any blood was saved in operations on the extremities by bandaging the limb previous to applying the constricting band. By elevating the limb for a few minutes, gravity assisted in depleting the vessels to some extent; then the constriction was applied. The blood left the arteries and collected in the veins. This was of great advantage to the surgeon, because he could, by making pressure on the part with both hands, always locate the vessels in order to apply the ligatures. Only a small amount of blood could escape, as the rest was kept back by atmospheric pressure. The reader objected to the use of Esmarch's bandage for the following reasons:

1. Amputations and exsections were frequently performed in cases of acute or chronic infectious disease, where the application of the bandage would tend to force the septic matter into the general circulation.

2. The avoidance of this danger more than compensated for the amount of blood that might be lost.

The VICE-PRESIDENT said that his experience in four or five cases had been similar to that of the reader. He had noted a recurrence of the disease in two cases—one that of an adult, and the other that of fifteen; complete excision was required afterward. The field of usefulness of the operation must be limited. A special objection to excision in young subjects arose from the consequent arrest of growth in the limb, and it was important to remember that a cure might sometimes be obtained by immobilization and pressure, without resort to the knife. The speaker here cited the case of a child two years of age, whose left knee had presented marked evidences of tuberculous disease. A quantity of pus was aspirated, the limb was fixed in a plaster-of-Paris splint, and three weeks later the symptoms were much relieved. A leather splint was then applied and was worn all winter. He had seen the child six weeks before the meeting, and all evidences of disease had disappeared, the joint being freely movable.

Dr. GERSTER agreed with the speaker regarding the propriety of expectant treatment in children, as the results were generally much better than when exsection was performed. He would only exsect in cases in which there had been prolonged suppuration, or where orthopædic treatment had been neglected. He had seen a number of cases that had been treated by orthopædic surgeons on the expectant plan, and had been surprised at the good results obtained. We could not be too radical in our treatment of tuberculous joints in adults, as hospital patients were too poor to submit to a long course of orthopædic treatment. By excision a cure was effected in six weeks, instead of being delayed for several months. All the cases reported had shown that it was better not to wait until fistulæ had formed and new complications had arisen.

Book Notices.

The Practitioner's Hand-book of Treatment; or, the Principles of Therapeutics. By J. MILNER FOTHERGILL, M. D., Physician to the City of London Hospital for Diseases of the Chest, etc. Third American from the Third English Edition. Philadelphia: Lea Brothers & Co., 1887. Pp. xx–17 to 660. [Price, $3.75.]

To one conversant with the medical literature of the last twenty years few names are more familiar than that of Fothergill. He has often addressed the profession, not only through the periodicals, but also in pamphlets and books. Particularly to young physicians have his messages been frequent and instructive. His audience, moreover, has not been limited to his own country, most of his writings having appeared under the imprint of American as well as English publishers. Many of his readers—who know him only as he has incidentally revealed himself—have come to think of him as a man in the prime of life, who, being a physician's son, has always breathed a medical atmosphere; who learned many of the practical lessons of professional work under a father's watchful eye; who has spent much time in infirmaries and hospitals; who has made some original contributions to scientific knowledge, but at the same time has always taken a practical view of his cases; and who, when he writes, although always having something to say, often says besides not a little which is irrelevant and sensational.

In examining a new medical book, one naturally turns to the title-page in order to learn in what college and of what subject the author is a professor. In the present instance the information on this point, thus obtained, is entirely negative, and yet the author is almost constantly appearing in the *rôle* of a teacher. In the preface of the second edition of the work under consideration he remarks with evident satisfaction that the success of his book "demonstrates that non-teaching hospitals may be useful beyond their immediate precincts," especially in the advancement of therapeutics. An interval of ten years elapsed between the publication of the first and third editions. It is rather unusual that a book written by one who lacks the prestige of a professorship should have been so favorably received, although the work of one American author—Emmet—has been even more successful, a third edition having been called for in five years. Such success shows that the function of teaching is not a monopoly in the hands of those who hold positions in medical colleges. To the many ambitious men who, either on account of their location or the absence of influential friends, are debarred from obtaining such positions this fact should be an inspiration to careful investigation and the publication of their observations.

The first edition of "The Hand-book of Treatment" contained five hundred and seventy-five pages, divided into twenty-four chapters, and subdivided into two hundred and fifty-two sections. The third edition has been increased in size by eighty pages. Two new chapters, embracing six sections, have been inserted just before the concluding chapter. The remaining sixty-two pages consist of additions to the original chapters, in the first twenty-three of which the division into sections has not been changed. It is therefore apparent that the whole work has undergone revision. The subjects of the two new chapters are: "The Dietary in Acute Disease and in Malassimilation" and "The Management of Convalescence." In the former are pointed out what foods are most easily digested under various circumstances, and when predigested food and the digestive ferments are indicated; in the latter are emphasized the necessity of caution in the administration of nitrogenized food, the danger of overtaxing the liver, and the unfavorable influence of cold during recovery from grave illness.

The work was originally written with the object of setting forth the principles which underlie the various therapeutic procedures which the author has found useful. His aim seems to have been to teach his readers how to treat patients, rather than, as is commonly taught in the colleges, to treat diseases. He endeavors to show the necessity of tact to the successful practitioner, and how this quality may be developed. The first half of the book is devoted to a consideration of the normal and abnormal workings of the more important physiological processes, and to a description of some constitutional conditions and disorders; the latter half to a discussion of the principles involved in the treatment of the different physiological systems. The practical value of the volume is greatly increased by the introduction of many prescriptions. To Americans a noticeable feature of these is the increase of the bulk of a single dose of many of the mixtures to one ounce by the addition of an infusion. The practice common among the apothecaries of this country of charging for prescriptions a uniform price by the ounce would render this method of prescribing very expensive, and therefore, in some cases, impracticable.

The man who has been taught the latest advances in physiology and practical medicine will find much which will seem to him trite and out of place in a book the aim of which is so ambitious. But let him not for that reason contemptuously throw the volume aside. He may gain from it many suggestions which will prove of value even to one thoroughly trained in modern medical science. To the young man who has had little experience in the practical management of patients, to him who has been in practice a few years and perchance has forgotten his physiology, and to the still older practitioner who has neglected his reading, this work must prove both interesting and valuable. To have a description of the normal physiological processes of an organ and of the methods of treatment of its morbid conditions brought together in a single chapter, and the relations between the two clearly stated, can not fail to prove a great convenience to many thoughtful but busy physicians. Few men can read the book carefully without being benefited thereby. That the profession appreciates that the author has undertaken an important work, and has accomplished it with a reasonable degree of success, is amply shown by the demand for this third edition.

Sphygmography and Cardiography, Physiological and Clinical. By Alonzo T. Keyt, M. D. Edited by Asa B. Isham, M. D., and M. H. Keyt, M. D. New York and London: G. P. Putnam's Sons, 1887. Pp. vi–229. [Price, $3.50.]

Seldom has a volume embodying such ingenious, original, and thoroughly scientific research as this appeared from the pen of an American practicing physician. The premature death of the writer has deprived him of the just reward of his years of solitary labor, in the complete recognition of their value that can not fail to come from both sides of the Atlantic.

The cardinal problem proposed for solution by Dr. Keyt is the varying rate of transmission of the pulse-wave through different parts of the arterial system and under different circumstances. The solution of this problem required the compound sphygmograph which Dr. Keyt invented. This, by means of a double system of explorers, water-filled transmission-tubes and levers, permits of the simultaneous registration of the pulse at any two arteries, or of the heart beat and the pulse of any artery. The cardiogram and sphygmogram are registered in superposition upon a glass slide moving by clock-work; and underneath, on the same slide, a clock-work chronograph marks time in fifths of seconds. On such a slide the base of the upstroke of the sphygmogram will always be inscribed a little later than the base of the upstroke in the corresponding cardiogram. The distance between the two points is measured, and, for the radial artery, is found to equal $\frac{10}{100}$ of an inch. The space occupied by the fifth of the second marking of the chronograph is $\frac{13}{100}$ of an inch. The time, therefore, which corresponds to the distance between the beginning of the cardiac pulsation and the beginning of the radial pulsation, is indicated by the formula $\frac{10}{13}$ of $\frac{1}{5}$ of a second; which equals $\frac{1}{6 \cdot 5}$ of a second.

To determine the average mean velocity of the pulse-wave along the arterial tree from the trunk near the root to a branch in the foot, the foregoing data are combined with those given the length of the artery. Thus the time difference between the pulse in the carotid and in the dorsalis pedis artery was found in one case to be 0·125 of a second. In this individual, the distance from the third cartilage, opposite the aortic orifice, to the carotid, was 7 inches, and to the dorsalis pedis, 53 inches. To the latter was added 6 inches for the aortic arch. The difference, then, between the carotid and dorsalis pedis pulse is $53 + 6 - 7 = 52$ inches.

The time difference (0·125″) is to the distance traveled by the pulse-wave (52 inches) as 1″ is to the velocity of the pulse-wave in a second, viz., 416 inches.

From experiments of this nature, Dr. Keyt has been able to formulate the following laws:

1. The rate of transmission of the pulse-wave along different positions of the arterial tree is not uniform, but considerably diverse.

2. The rate is minimum for the aorta, maximum for the arteries of the lower extremity, and intermediate for those of the upper extremity.

3. The mean velocity of the pulse-wave is much slower in young children than in adults, especially in the lower extremities, where it may not exceed one half that in adults.

4. The mean velocity of the pulse-wave increases with age.

5. The time difference between the beat of the heart and the carotid pulse is very nearly the same in young children as in adults.

6. The interval between the contraction of the ventricle and expansion of the artery is notably less in young children than in adults.

These conclusions are in perfect accord with the observations of Benedek, to the effect that in children the arteries are large and their tension is low (which implies a diminished velocity). As the body elongates in growth, the arteries elongate out of proportion to their increase in diameter, and with this relative narrowing the tension (and presumably the velocity) rises. Such rise of tension is especially marked in the arteries of the lower extremities and the pelvis, and, Benedek suggests, becomes an important causal condition of the establishment of sexual functions, and especially menstruation.

The causes of the variation in velocity of the pulse-wave have been carefully studied by Dr. Keyt by means of a schema of the circulation, tested with his sphygmograph. He concludes:

1. The velocity of the pulse-wave is principally determined by the elasticity of the arteries, being slower as the arteries are more elastic.

2. This incessantly changes within small limits, from variations of arterial tone, being faster as the tone is higher.

3. It diminishes when the size of the artery is increased.

4. It tends to increase with increase of arterial pressure.

5. It is not perceptibly modified by an aneurysm, although the distal wave may be delayed there, in consequence of absorption by the yielding aneurysmal walls.

One of the results of the simultaneous graphic method has been the demonstration and measurement of an interval of time between the beginning of ventricular contraction and the opening of the aortic valves. To this period the author applies the term "presphygmic," or "cardio-aortic," or "ventriculo-aortic."

Clinical and schematic researches demonstrated the important facts that:

1. The duration of the presphygmic interval is *increased* in slow ventricular contraction, infrequent pulsations, relatively

high arterial pressure, heavy aortic valves, mitral insufficiency, and probably mitral contraction.

2. The duration of the presphygmic interval is diminished in quick ventricular contraction, frequent pulsations, relatively low arterial pressure, and aortic insufficiency.

In the last case there is also observed an abnormal diminution in the delay of the carotid or radial pulse upon the cardiac, and, in the absence of an aortic aneurysm, which also causes such delay, this becomes an important diagnostic sign of aortic insufficiency.

The author thus explains this interesting fact: In large aortic insufficiency the base of the arterial column rests against the sides of the ventricle, instead of against the aortic valves, and is advanced, causing rise of the pulse, with the first movement of ventricular contraction.

The coincidence of an aortic aneurysm may so antagonize the effect of the aortic insufficiency that the pulse is brought back to normal. This proposition is illustrated by a remarkable case.

In mitral insufficiency the pulse is retarded; and this sign of the lesion was first demonstrated by Dr. Keyt. The phenomenon is due to the loss of time and work of the ventricle, as the ventricular systole first drives the blood backward, and only forward into the aorta when the pressure in the left ventricle and auricle exceeds that of the aorta.

Such are the principal conclusions which have been obtained by the author with his new method—new clinically, although the principle of multiple registration had of course been recognized in laboratories.

The new facts discovered by Dr. Keyt, and the new methods for clinical observation disclosed by him, are of great and permanent value. There is no treatise on sphygmography which contains more original contributions to science.

It is noteworthy that these are all obtained by the evolution of a single fundamental method—namely, the measurement of the velocity of pulse-waves. The author does not discuss the question of the various *forms* of the pulse tracing, which has principally occupied other writers on the subject.

A Treatise on Diseases of the Skin, with Special Reference to their Diagnosis and Treatment, including an Analysis of Eleven Thousand Consecutive Cases. By T. M'Call Anderson, M. D., Professor of Clinical Medicine in the University of Glasgow, etc. With Colored Plates and Numerous other Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xviii–17 to 662.

After nearly thirty years of experience as a physician, and after having issued several monographs upon skin diseases, Dr. Anderson now presents us with a large and attractive treatise. Unlike most works on the same subject, this one is written from the standpoint of the general practitioner. The author plunges at once into a discussion of cutaneous diseases without any preliminary chapters upon the anatomy, physiology, and hygiene of the skin. He pauses for a few brief pages to describe the lesions of the skin, to say a word upon classification, and to give an analysis of eleven thousand cases; then he begins his subject proper with an account of pruritus cutaneus. The author's style is pleasant, although it is rather that of the lecture-room than of the text-book. Very little attempt has been made to give the pathology of skin diseases, and scarcely any notice is taken of the latest researches of the Germans. Perhaps it is for this reason that our indulgence is asked on the score of the book having been written "during the exigencies of hospital and consulting practice." The best books, however, are usually so written.

The sections upon sebaceous cyst, anthrax, malignant pustule, dermatitis calorica, nævus vasculosus, and epithelioma are by Dr. H. C. Cameron; those on Delhi boil, parangi, donda ndugu, elephantiasis, frambœsia, leprosy, ainhum, Madura foot, pellagra, and Guinea-worm disease are by Dr. James Christie; and that upon ulcers is by Dr. William Macewen. These make up nearly one fifth of the book, and are well and scientifically written. Those by Christie are of special interest, as he describes what he has seen, and some of the diseases are not commonly found described in text-books.

We are sorry to note that no attention has been paid to diseases of the nails, except as they are involved in other diseases; and that neither dermatitis or impetigo herpetiformis nor tuberculosis cutis is even hinted at. No mention is made of the use of galvanism in the treatment of vitiligo, of the chrysarobin pigment in psoriasis, of electrolysis in nævus vasculosus, or of the local application of pure carbolic acid in lupus erythematosus. The terms "lepra" for a circinate psoriasis, "psoriasis syphilitica" for a squamous syphilide, "lichen" for papular eczema, are retained, despite the general opinion that, for the sake of clearness and simplicity of nomenclature, such terms should be discarded. The bacterial or microbian origin of erysipelas, lupus, and the scrofulides is entirely ignored, and the tubercle bacillus has apparently not attracted the author's attention. "Salt rheum" is omitted from the synonyms of eczema. The author's chronic erythema of the face is rather what we should regard as a chronic erythematous eczema, his hydroa is identical with herpes iris, and besides this he makes no mention of hydroa. In the ætiology of acne and of rosacea no mention is made of constipation, or of digestive derangements. We are surprised to find perforating ulcer of the foot spoken of in the section on clavus and nowhere else; that, while Foulis's treatment of ringworm is given, no mention is made of Harrison's plan; and that we are warned against curing a chronic case of pediculosis capitis for fear of disastrous effects on the child.

The book contains one steel plate, two chromo-lithographs, and sixty-nine woodcuts. Probably from oversight the illustration of Auspitz's modification of Volkmann's sharp spoon is repeated, and that of Squire's multiple scarifier. The text bristles with histories of cases, in some instances more space being given to the recital of a case than to the description of the disease. A great deal of labor has been successfully bestowed upon diagnosis, the excellent form of parallel columns being made use of in many places to give the differential points. This seems to us to be the most valuable feature of the book. The busy general practitioner will be pleased to note that a great number of formulæ are given at the bottom of the pages. The publishers have done their part of the work well, and produced a handsome book.

On Aphasia; being a Contribution to the Subject of the Dissolution of Speech from Cerebral Disease. By James Ross, M. D., LL. D., Aberd., Fellow of the Royal College of Physicians of London, etc. London: J. & A. Churchill, 1887. Pp. 128.

This interesting monograph consists of a series of papers contributed to the Manchester "Medical Chronicle" and now collected into a more convenient and accessible form, with some alterations and additions by their author. In the preface the author disclaims any intention of presenting an exhaustive account of the subject, but the reader will find, nevertheless, nearly all forms of aphasia considered in detail, and much instructive information collected from the most eminent authorities on neurology. The literature of the subject has been fully explored, and the foot-notes and references form at once a valuable index to any who may wish to follow in this field, as well as a testimony to the industry and discrimination of the author.

Dr. Ross defines aphasia as "a generic term used to include diminution or loss of function of the emissive department of the motor, or of the apperceptive department of the sensory function of speech, or of both these departments combined." And he divides it accordingly into three varieties—namely: (1) motor aphasia, (2) sensory aphasia, and (3) a combination of the two. All three of these varieties receive full consideration, and all are illustrated by a detailed description of cases. More than one half the book is devoted to the chapters on morbid anatomy and morbid physiology, and, wherever necessary, diagrams and other illustrations have been used. These chapters are exceedingly interesting, and are rendered so not merely by the intrinsic value of the knowledge imparted, but by the lucid and pleasant manner as well in which the author has presented the subject. We find here discussed all the complex disturbances connected with the function of speech—paraphasia, paragraphia, paralexia, psychical blindness, and psychical deafness—and a consideration of the various theories regarding their causation, including the author's exposition.

The general practitioner interested in nervous diseases will find this work an excellent compendium, therefore, to which to refer, as it contains the most recent information drawn from all sources with a discriminating judgment.

On Fevers; their History, Ætiology, Diagnosis, Prognosis, and Treatment. By Alexander Collie, M. D. (Aberd.), Member of the Royal College of Physicians of London, etc. With Colored Plates. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. viii–288. [Price, $2.50.]

After having read the preface, which says that the little volume is the result of observations by the author, founded upon over twenty-one thousand cases, we must confess to considerable disappointment with its contents. The fault may have been that we expected too much, but one certainly has a right to expect independent observations from a writer who professes to have had such an extensive experience. We can scarcely see the *raison d'être* of a book which is made up, for the most part, of lengthy quotations from well-known text-books.

Of the four plates contained in the book, one is of considerable interest in that it shows the condition of the affected bowel at the end of the first week in typhoid fever. It represents marked swelling of Peyer's patches and isolated glands without any ulceration, which may, however, be seen just commencing on the patch next the ileo-cæcal valve. It is not often that one has an opportunity of seeing the bowel at so early a stage of the disease. Of four thousand cases, the writer states that he has met with only two of this kind.

Evacuant Medication (Cathartics and Emetics). By Henry M. Field, M. D., Professor of Therapeutics, Dartmouth Medical College, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. vi–13 to 288. [Price, $1.75.]

We believe it to be a pretty general rule that books which have an origin in common with the one before us, the accumulated notes of a college professor, rarely fail to possess value to the world at large. The present one is certainly no exception. The author says very pertinently in his preface or "apology" that "whosoever proposes to add, however slightly, to the burden of those who read in this busy and much-pressed age, should suggest the consideration of his claim to be heard." The claim in this instance is manifold. In the first place, it is of great service to collect all this material together, and present it in such a clear and concise form. Even were this a mere compend of the mass of literature on this subject, scattered in our libraries through a vast series of journals and medical works, it would be worthy of commendation; but it is much more than this. There are numerous practical suggestions, the results of the author's own clinical experience, which can not fail to be of value to the busy practitioner. Constipation and "biliousness," those most empirically treated of all disorders, are still the *bête noire* of the profession, because we do not take thorough cognizance of all the means at our control. The classification adopted in this work is into cathartics and emetics, the author dealing with the materia medica, pharmacy, action and use, and contra-indications of each drug. Mercury is called "the preeminent cathartic if properly used," and this we ourselves believe to be true. As usual, the pendulum, having swung too far in one direction in one generation, is carried over equally beyond the line in the opposite direction in the next. It has about reached the popular intelligence that mercury was at one time given to excess, and so to-day we find that every advertising medicine-man who desires to attract popular sympathy to his "preparation" takes care to label it in large letters "purely vegetable." As if, forsooth, the most powerful poisons known were not all of vegetable origin. The chapters on "Emetic Medication" and "Arrest of Vomiting" are filled with suggestions of great value to the young practitioner, and of not a little to the more experienced.

In everything relating to typography and general appearance the book is a model one.

The Year-book of Treatment for 1886. A Critical Review for Practitioners of Medicine and Surgery. Philadelphia: Lea Brothers & Co., 1887. Pp. viii–304. [Price, $1.25.]

Although the present volume has among its contributors the usual number of distinguished medical gentlemen, the general impression conveyed by a careful perusal of it is that several of the papers do not show that discrimination in the selection of material which has marked former "year-books." This can hardly be due to the paucity of subjects; it is rather to be ascribed to hasty preparation on the part of the writers. It would be unfair to criticise individual articles, but it must be confessed that those on midwifery and diseases of women are not up to their authors' best work, that Dr. Duckworth's chapter on diseases of the abdominal viscera is distinguished principally by its general tone of *nil admirari*, and that the eminent author of the section on diseases of the nervous system seems to have found very little to say regarding the recent advances in therapeusis in his department. In the chapter on rhinology and laryngology a brief reference is made to intubation of the larynx, in which "O'Dwyer's practical revival of an old suggestion" receives rather faint praise. Dr. Coupland gives a valuable *résumé* of the subject of the intravenous injection of salt solution, and renal and pulmonary affections are satisfactorily presented. The subject of general surgery is handled by Mr. Bryant and Mr. Treves in their usual careful manner. Aside from the unevenness of the volume, which is unavoidable, considering the wide range of subjects, it presents a very good idea of medical progress during the year 1886.

A Compend of Obstetrics, especially adapted to the Use of Medical Students and Physicians. By Henry G. Landis, A. M., M. D., late Professor of Obstetrics and Diseases of Women in Starling Medical College, etc. Third Edition, thoroughly revised, with illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. 118. [Price, $1.]

The success of this little work is shown by the fact that it has already reached a third edition. It is by no means on a level with the ordinary "cramming" epitomes which are so numerous and are of such questionable value, since the author took care that his book should only be intelligible to those who had already mastered the subject with the aid of an extended treatise. The matter is so condensed that it would be unwise for a student to risk an examination depending upon the compend alone. As a means for affording a hasty review of an already familiar theme, it is admirable. Although we might question certain theoretical statements, the work is thoroughly safe and conservative in its practical deductions. The text is unusually free from typographical errors.

A Compend of Electricity, and its Medical and Surgical Uses. By Charles F. Mason, M. D., Assistant Surgeon, U. S. Army. With an Introduction by Charles H. May, M. D., Instructor in Ophthalmology, New York Polyclinic. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xv–17 to 108. [Price, $1.]

In this little volume there is much useful information. As an abstract of the contents of more pretentious volumes it will serve a useful purpose; and we may also add that the style of the author is at once clear and simple, qualities which, wherever found, are worthy of commendation.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

F. Alcan, Paris.—P. Garnier, "Dictionnaire annuel des progrès des sciences et institutions médicales," 1886. (7*f.*) —— C. Firket, "Études sur les conditions anatomiques de l'hérédité de la tuberculose." —— G. Pouchet, "Charles Robin, sa vie et son œuvre."

Asselin & Houzeau, Paris.—G. Butel, "La tuberculose des animaux et la phthisie humaine." —— Arloing, Cornevin et Thomas, "Le charbon symptomatique du bœuf." (7*f.*)

J. B. Baillière & fils, Paris.—L. Lichtwitz, "Les anesthésies hystériques des muqueuses et des organes et les zones hystérogènes des muqueuses." (3*f.*) —— A. Corlieu, "La prostitution à Paris." (2*f.*) —— Azam, "Hypnotisme," Preface by J. M. Charcot. (3*f.* 50.)

O. Berthier, Paris.—A. Veillard, "Formulaire clinique et thérapeutique pour les maladies des enfants." (4*f.*) —— F. Bottey, "Études médicales sur l'hydrothérapie." —— L. Natanson, "La circulation des forces dans les êtres animés. Essai de psychologie scientifique."

Bureaux du "Progrès médical," Paris.—A. Blondeau, "Étude clinique sur le pouls lent permanent avec attaques syncopales et épileptiformes." (2*f.*) —— H. Picard, "De l'incontinence nocturne d'urine essentielle." (0*f.* 50.) —— A. G. Raison, "Des traitements des phénomènes douloureux de l'ataxie locomotrice progressive par pulvérisations d'éther et de chlorure de méthyle." (2*f.* 50.)

A. Delahaye & E. Lecrosnier, Paris.—Motais, "Anatomie de l'appareil moteur de l'œil de l'homme et des vertébrés."

O. Doin, Paris.—L. Poisson, "Voyage chirurgical en Allemagne." (3*f.*) —— G. Lemoine et J. Chaumier, "Des troubles psychiques dans l'impaludisme." —— A. Dichas, "Étude de la mémoire dans ses rapports avec le sommeil hypnotique." —— A. Pinard et D. Pinard, "De la gingivite des femmes enceintes et de son traitement." —— A. Brissay, "Fragments de chirurgie et de gynécologie opératoire contemporaines," Introd. by Doléris. (7*f.*) —— E. Callamaud, "Du rôle de l'eau dans la nutrition." (3*f.*) —— L. Danion, "Traitement des affections articulaires par l'électricité." (5*f.*) —— R. Lefour, "De la constriction métallique appliquée à la rhachitomie." (3*f.* 50.)

V. Rozier, Paris.—L. Lacronique, "Des fractures dites indirectes des os longs par petits projectiles de guerre."

G. Steinheil, Paris.—L. A. Sayre, "Leçons cliniques sur la chirurgie orthopédique." Transl. by H. Thorens, preface by Polaillon. (10*f.*) —— B. Marfau, "Troubles et lésions gastriques dans la phthisie pulmonaire."

W. Braumüller, Vienna.—E. Bock, "Zur Kenntniss der bandförmigen Hornhauttrübung." (2*M.*)

J. F. Bergmann, Wiesbaden.—J. C. Holm, "Die Technik d. Badens." (1*M.*) —— S. Moos, "Untersuchungen über Pilzinvasion d. Labyrinths im Gefolge von einfacher Diphtherie." (3*M.* 60.)

T. Fischer, Kassel.—G. A. Erdmann, "Geschichte d. Entwickelung u. Methodik d. biolog. Naturwissenschaften." 8th part. (3*M.* 60.)

Heuser, Neuwied.—F. Dahlmann, "Zur Behandlung d. Fehlgeburten." (0*M.* 75.)

A. Hirschwald, Berlin.—E. v. Bergmann, "Arbeiten aus d. chirurg. Klinik der königl. Universität Berlin." 2d part. (8*M.*)

H. Laupp, Tübingen.—G. Walcher, "Senkung u. Vorfall an Scheide u. Gebärmutter sowie die veralteten Dammrisse." (4*M.* 60.)

O. Parrisius, Berlin.—E. Rudeck, "Ueber u. gegen das Gift der Schlange u. Fliege." (0*M.* 50.)

J. Springer, Berlin.—M. Freger, "Die Ohnmacht bei d. Geburt vom gerichtsärztl. Standpunkte. (7*M.*)

V. Pasquale, Naples.—G. Petteruti, "Esperimenti ed osservazioni ulteriori intorno alla ossaluria."

F. Rechiedei, Milan.—C. Marocco, "Sopra un' anomalia congenita dell' introito della vagina." —— C. Marocco, "Studio clinico sui tumori del bacino nei loro rapporti di origine e di sede nel legamento largo.

F. Vallardi, Milan.—G. Amadei, "Mutismo isterico guarito colla suggestione ipnotica."

Espasa & Ca., Barcelona.—Viura y Carreras, "Instrucciónes populares para evitar la propagación y los estragos de la difteria."

J. C. Garcia, Madrid.—M. Corral y Mairá, "Estudio Médico de Difteria y su Tratamiento mas eficaz." (2*r.*)

BOOKS AND PAMPHLETS RECEIVED.

Ligaments; their Nature and Morphology. By John Bland Sutton, F. R. C. S., Lecturer on Comparative Anatomy, Senior Demonstrator of Anatomy, and Assistant Surgeon to the Middlesex Hospital, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. vi–107. [Price, $1.25.]

Report of William M. Smith, Health Officer of the Port of New York, to the Commissioners of Quarantine. [Reprinted from the "Report of the Commissioners of Quarantine" to the Legislature for the year 1886.]

The Vest-Pocket Anatomist (founded upon "Gray"). By C. Henri Leonard, A. M., M. D., etc. Thirteenth Revised Edition. Enlarged by Sections on the Anatomical Triangles and Spaces, Herniæ, Gynæcological Anatomy, and Dissection Hints. Detroit: The Illustrated Medical Journal Co., 1887. Pp. 154.

New Commercial Plants and Drugs. No. 10. Strophanthus, its Botany profusely illustrated, its Chemistry, Pharmacy, Physiology, and Therapeutics; the Colonial and Indian Exhibition; Hints on the Cultivation of Drug-yielding Plants in Great Britain; Notes from Actual Practice in the Treatment of Disease with Jambul, Salix Nigra, Kava-Kava, Siegerbeckia, Papaw, Hydrocotyle, etc.; Gogo Plant; Chlorocodon Whitei; Huamauripa; Kola Chocolate; Ditana Digitifolia; and Particulars of many other New and Rare Drugs; Reports on Produce Received and Examined. By T. Christy, F. L. S., M. S. C. I., F. R. G. S., F. R. B. S., etc. London: Christy & Co., 1887. [Price, 3*s.* 6*d.*]

Scheme for Case Reporting. Arranged by W. H. Allchin, M. B., F. R. C. P., Physician to the Westminster Hospital, etc. London: H. K. Lewis, 1887. [Price, 1*s.*]

Granular Conjunctivitis, with and without Pannus. By W. Cheatham, M. D. [Reprinted from the "Atlanta Medical and Surgical Journal."]

New Treatment of the Affections of the Respiratory Organs and of Blood Poison by Rectal Injections of Gases, after the Method of Dr. Bergeon, Senior Deputy Professor at the School of Medicine at Lyons. By Dr. V. Morel. Translated from the French by L. E. Holman. Published by James W. Queen & Co., Philadelphia, Pa. [Price, 25c.]

Nasal Reflexes as a Cause of Diseases of the Eye. By W. Cheatham, M. D., Lecturer on Diseases of the Eye, Ear, Throat, and Nose, University of Louisville, etc. [Reprinted from the "American Practitioner and News."]

Lehrbuch der Kinderkrankheiten. Für Aerzte und Studirende. Von Dr. Adolf Baginsky, Privatdocent der Kinderheilkunde an der Universität Berlin. Zweite vermehrte und verbesserte Auflage. Braunschweig: Friedrich Wreden, 1887. Pp. xix–902.

Stricture of the Urethra: its Diagnosis and Treatment facilitated by the Use of New and Simple Instruments. With Original Wood Engravings. By E. Distin-Maddick, F. R. C. S. Edin., Late Surgeon, Royal Navy. London: Ballière, Tindall, & Cox, 1887. Pp. v–9 to 154.

Zur localen Behandlung der Blase. Über Polyurie, Anurie und Oligurie. Zwei Abhandlungen von Prof. Dr. Robert Ultzmann, in Wien. [Separatabdruck aus der "Internationalen klinischen Rundschau."]

Annual Address of the Retiring President of the Cuyahoga County Medical Society. By Dr. H. H. Powell, Cleveland, O. [Reprinted from the "Cleveland Medical Gazette."]

Iodol: an Effective Substitute for Iodoform. By R. Norris Wolfenden, M. D., Cantab., etc. [Reprinted from the "Practitioner."]

The Cremation of the Dead considered from an Æsthetic, Sanitary, Religious, Historical, Medico-legal, and Economical Standpoint. By Hugo Erichsen, M. D., etc. With an Introductory Note by Sir T. Spencer Wells, Bart., F. R. S., etc. Illustrated. Detroit: D. O. Haynes & Company, 1887. Pp. xiv–264. [Price, $2.]

Elements of Botany, including Organography, Vegetable Histology, Vegetable Physiology, and Vegetable Taxonomy, and a Glossary of Botanical Terms, illustrated by nearly Five Hundred Engravings from Drawings by the Author. By Edson S. Bastin, A. M., F. R. M. S., Professor of Botany, Materia Medica, and Microscopy in the Chicago College of Pharmacy. Chicago: G. P. Engelhard & Company, 1887. Pp. xv–282. [Price, $2.50.]

Merritt H. Cash Prize Essay. The Physiological Condition and Sanitary Requirements of School-Life and School-Houses. By A. N. Bell, A. M., M. D., Brooklyn, N. Y. [Abstract from the "Transactions of the Medical Society of the State of New York," for the Year 1887.]

Miscellany.

The "Sanitas" Disinfectant.—Mr. C. T. Kingzett, of the English Society of Public Analysts, has prepared a pamphlet entitled "A Precise Investigation of some Micro-organisms and Soluble Ferments," in which he says: "In the first part of this memoir I have dealt generally with the collective knowledge of the relations of micro-organisms to disease, and have pointed out that in those cases in which it can be reasonably proved that micro-organisms are in some way or the other responsible by their presence for the existence of disease, they probably act by giving rise to the production of poisonous products in the nature of zymases, but which are strictly chemical in character.

"In the second part I have proved experimentally that *yeast* is destroyed by 'sanitas,' and is prevented thereby from exercising its ordinary functions when contained either in a solution of glucose or starch or gum. Similarly, it has been experimentally demonstrated, in a strictly quantitative manner, that 'sanitas' destroys and prevents the functions of other micro-organisms, including the *Bacterium lactis*, the *torulaceous* ferment which changes urea into ammonium carbonate, the *Bacterium termo*, and the collective microscopic agencies of the putrefactive process.

"In the third part of this investigation I have proved also experimentally and quantitatively that 'sanitas' fluid prohibits the action of soluble ferments or zymases such as ptyalin (in saliva) and pepsin.

"Dr. Miller, of Dundee, has described four experiments in which 'sanitas' fluid was mixed with lymph in equal proportions, in all of which, after standing eight hours, the 'disinfection' was complete.

"Viewing these new results of mine, and weighing them with the results now generally known to attend the use of 'sanitas' in the treatment of wounds and as a disinfectant generally by medical men, I do not hesitate to say that all the claims which I originally made, some years ago, in respect of this agent, have been fully justified, and that, by the discovery and introduction of 'sanitas,' I have provided for a long-felt want. It is a typically excellent disinfectant in every true sense of that word, alike destructive of micro-organisms and of the soluble zymases to which they and other organisms give rise. Moreover, it alone, of all substances available for use, possesses those other properties which the highest authorities say are necessary for the general use of a disinfectant. In the Thirteenth Annual Report of the Local Government Board, 1883–1884, Professor Burdon Sanderson writes as follows:

"'Nor must it be forgotten that, even after the labor of discovery has been got through, and we have joyfully cried εὕρηκα, what are called practical difficulties are sure to come in of such a kind as to render our achievements in a utilitarian sense fruitless. *For an antidote against infection to be of real value, it must be readily procurable, free from poisonous action, and have such physiological relations to the organism that it is capable of remaining in it sufficiently long to exercise its restraining influence on the process which it is intended to counteract. To discover such an agent is indeed a problem of difficulty.*'

"I have italicized Professor Burdon Sanderson's words as specially worthy of attention, but I venture to assert that the discovery for which he looks has been already made. While he and others are seeking among the very products of putrefaction itself for a reliable disinfectant, there exists in 'sanitas' the agent possessing all the characters they regard as essential to an antidote to infection for general use. Not only is 'sanitas' a natural disinfectant and a mild oxidizing agent capable of readily giving off oxygen when and where required, but it is also as well qualified by its non-poisonous nature for internal administration as for external application, and so it can be used for the treatment of all infectious diseases which are located in the human body, such as cholera, typhoid fever, dysentery, ulcerated bowels, and throat complaints, as also for the other contagious diseases which affect more particularly the outside surfaces of the body.

"With further reference to the internal use of 'sanitas' fluid, it may be pointed out that, although, by the experiments described in this paper, it has been proved that 'sanitas' interferes with the action of pepsin and presumably other digestive ferments, yet the quantity required to wholly arrest their action is considerable in itself, and much greater than that which is competent to arrest the action of micro-organisms. That is to say—the amount of 'sanitas' which could be given in doses for the treatment of such diseases as cholera and enteric fever would not suffice to cause serious interference with the digestive processes."

Pinus Canadensis in the Treatment of Burns.—Dr. W. C. Wile, of Philadelphia ("Med. Register," May 11, 1887), says:

"Many remedies have at one time or another been proposed for the surgical condition following the application of excessive heat to the body, and, while some of these are of value, still all are more or less unsatisfactory. The alleviation of the pain and suffering attendant upon burns is one of the most important points in the case toward which the surgeon directs his efforts. The shock from this cause alone is sufficient oftentimes to produce death, and always is great. Accidentally, I recently discovered a remedy which is easily applied and exceedingly prompt in its action. I was called in some haste to a little child, about three weeks ago, who was badly burned about the hands and face from falling on a hot stove. The burns were deep, the pain excessive, and the shock very considerable. I hastily sent to the drug-store for a mixture of lime-water, olive-oil, and carbolic acid. While waiting for this, I prepared to give the child a hypodermic injection of morphine, with which to allay the agony, which was so great that convulsions seemed imminent. While I was getting ready to do this, I espied upon the shelf a bottle of *Pinus canadensis* (colorless) which I had some time before ordered to be diluted as a vaginal wash for the mother. Remembering its wonderful soothing influence in acute inflammations of the vagina, I at once concluded to try it. Taking a corner of a soft handkerchief, I rapidly painted the injured parts, when, like magic, the pain ceased. You can well imagine my surprise and delight at the result. I directed a camels'-hair brush to be purchased, and had the mother make free applications, and the case had no other treatment, save a little iodoform ointment later on. Since this I have tried it in several cases, both slight and severe, and with the same delightful results. The preparation used was made by the Rio Chemical Company, of St. Louis, Mo."

The New York Academy of Medicine.—Among the autograph manuscripts lately added to the Academy's collection is a letter written by the late Dr. George B. Wood, of Philadelphia, presented by Dr. W. H. Haines. The letter contains an autobiographical sketch.

Bellevue Hospital.—Dr. George B. Fowler has been appointed a visiting physician, to succeed the late Dr. E. Darwin Hudson.

The Health of the State of New York.—By the State Board of Health's "Monthly Bulletin," for April, it appears that the whole number of deaths reported during the month was 7,967, of which 30·6 per cent. were of children under five years old. In each thousand deaths there were 136·20 from zymotic diseases (against 211·11 in March), including 14 from diarrhœal diseases, 7 from typhoid fever, and 60 from croup and diphtheria.

The Baltimore Academy of Medicine.—The following-named gentlemen have been elected officers for the year 1887–'88: Dr. W. C. Van Bibber, president; Dr. B. B. Browne, vice-president; Dr. C. C. Bombaugh, secretary; Dr. G. L. Taneyhill, treasurer; Dr. W. B. Canfield, reporting secretary; and Dr. T. A. Ashby, Dr. R. T. Wilson, and Dr. Hiram Woods, members of the executive committee.

The Health of Michigan.—According to a summary of returns to the State Board of Health, for the four weeks ending May 28th, for which we are indebted to the secretary, Dr. Henry B. Baker, diphtheria was reported from thirty places, scarlet fever from thirty-two, typhoid fever from four, and measles from fifty.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending June 2d:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending May 14th corresponded to an annual rate of 19·7 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Bolton, viz., 10·7, and the highest in Huddersfield, viz., 29 in a thousand. Small-pox caused 1 death in Cardiff and 1 in Portsmouth.

London.—One thousand three hundred and ninety-five deaths were registered during the week ending May 14th, including 89 from measles, 16 from scarlet fever, 9 from diphtheria, 59 from whooping-cough, 1 from enteric fever, and 8 from diarrhœa and dysentery. There were 295 deaths from diseases of the respiratory organs. Different forms of violence caused 48 deaths, and 15 suicides were registered. The deaths from all causes corresponded to an annual rate of 17·3 in a thousand. In greater London, 1,742 deaths were registered, corresponding to an annual rate of 16·8 in a thousand of the population. In the "outer ring" 16 deaths from measles, 7 from whooping-cough, and 5 from scarlet fever were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending May 14th, in the sixteen principal town districts of Ireland, was 22·3 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 9·6, and the highest in Drogheda, viz., 38·1 in a thousand.

Dublin.—One hundred and sixty-five deaths were registered during the week ending May 14th, including 9 from measles, 2 from scarlet fever, 1 from typhus, 4 from whooping-cough, 1 from enteric fever, and 1 from cerebro-spinal fever. Diseases of the respiratory organs caused 32 deaths. In nineteen instances the causes of death were uncertified, and 1 homicide was registered. The deaths from all causes corresponded to an annual rate of 24·4 in a thousand.

There were 25,392 deaths registered in Ireland during the quarter ending March 31, 1887, corresponding to an annual rate of 20·9 in a thousand of the estimated population. The death register included 148 from measles, 236 from scarlet fever, 93 from typhus fever, 253 from whooping-cough, 87 from diphtheria, 107 from simple continued and ill-defined fever, 145 from enteric fever, 244 from diarrhœa, and 6 from simple cholera. No fatal cases of small-pox were recorded during the quarter.

Netherlands.—The average annual death rate represented by the deaths registered during the month of March, 1887, in the twelve principal cities of the Netherlands, having an aggregate population of 1,102,191, was 27·6 in a thousand. The lowest rate was recorded in Groningen and in Leiden, viz., 23·5, and the highest in Amsterdam, viz., 31·5 in a thousand.

Kingston, Jamaica.—One hundred and sixteen deaths were registered during the month of April, 1887, including 2 from yellow fever, 14 from small-pox, and 1 from diphtheria.

Havana.—Twenty deaths from yellow fever, 2 from small-pox, and 3 from enteric fever were registered during the week ending May 19th.

Merida, Yucatan.—The United States consul, under date of May 14th, reports the existence of four cases of yellow fever.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Guayaquil	April 29.	35,000	42	..	.. ..	5	....	12	....	....
Guayaquil	May 6.	35,000	54	..	8	3	....	12	....	....
Paris	May 7.	2,260,045	1,165	..	....	11	....	10	8	38
Bordeaux........	May 8.	240,582	134	..	....	....	....	1	....	....
Bristol...........	April 30.	223,695	121	..	....	.. .	....	...	4	....
Toronto..........	May 21.	120,000	34	..	....	....	...	....	....	3

UNITED STATES.

Lewes, Del.—The acting assistant surgeon in charge of the quarantine at Delaware Breakwater reports that in the town of Lewes (population 1,900) from January 9th, when the first case appeared, to April 20, 1887, there were 836 cases of measles reported, and about 200 cases in the immediate vicinity of the town. The mortality was low, being only about 1·5 per cent.

Key West.—The medical officer in charge of the Marine-Hospital Service (Passed Assistant Surgeon Glennan), under date of May 28th, reports that "out of a total of 5 cases there have been 3 deaths and 1 recovery, and 1 with a probability of recovery," from yellow fever, "all originating in one infected premises. The danger apprehended was on account of the large number of unacclimated persons in the city, with every means of outlet cut off. Many left in sailing-vessels, and, at my suggestion, Dr. Porter asked the Louisiana board to allow healthy persons to go from here this week, subject to inspection or detention at the New Orleans quarantine, which was granted. At this date no new cases have developed, but it is yet too early to say that the disease has been stamped out. In any event, the care exercised in this instance by the board of health, in guarding infected houses, fumigating and destroying infected material, and in promptly declaring the existence of the disease (measures probably for the first time efficiently adopted in this place), has practically established an outside confidence in sanitary information emanating from here. . . . It is reasonable to suppose that the infection was introduced here by a Bolio family, who formerly kept the San Carlos and Fifth Avenue hotels in Havana. During the past winter they have brought over household goods and stored them in the adjoining house. It is said that Baker and his wife slept upon one of their mattresses. At a special meeting of the board of health this morning, at which I was present, this was recognized as probable. The disease may now be said to have three foci; and should the board of health now succeed in preventing its further spread, it will only be done by the utmost care and vigilance."

A telegram, June 1st, reports 4 new cases in different localities.

The War Department authorized the president of the board of health to use the hospital and the laundress quarters attached to the military barracks for the treatment of yellow-fever patients. Iron bedsteads and mattresses were sent from the marine-hospital stores.

The United States sanitary inspector at Havana, Dr. Burgess, reports that the furniture bought of Mrs. Bolio and used by the Baker family had been used in a hotel at Havana, and it is well known that many cases of yellow fever have occurred in that hotel during the last few years. He himself had treated 5 cases in it, and is of opinion that the old pillows, bedding, etc., were the sources of infection.

Inspection of vessels was commenced at the Delaware Breakwater quarantine June 2, 1887.

THE NEW YORK MEDICAL JOURNAL, June 18, 1887.

Original Communications.

THE PRESENT STATE OF OUR KNOWLEDGE REGARDING LOCALIZATION IN THE CORTEX CEREBRI.*

By LANDON CARTER GRAY, M. D.,
PROFESSOR OF NERVOUS AND MENTAL DISEASE IN THE NEW YORK POLYCLINIC.

Although it has only been within a very recent time that cortical localization has been precise, the doctrine is yet an old one. The evidence of varied mental action, of which every people must have been conscious after the attainment of a certain grade of civilization, necessarily led the ancients to the conception of cerebral compartments. But these conceptions were confined to such vague ideas as those of the early Arabian physicians, who placed sensibility, intellect, judgment, and memory in the ventricles; or as those of Albertus Magnus, bishop of Ratisbon, who mapped out, on a brazen head of his own manufacture, the frontal region as the site of general sensibility and imagination, the vertex as that of intellect and judgment, the occiput as that of memory; or as those of Mondino di Luzzi, who in the fourteenth century thought each ventricle to be endowed with a particular form of intellectual force; or as Guy de Chauliac, surgeon to the Avignon popes, evolved a fanciful cerebral localization; or as Montagnanus, who in 1491 published a chart of the brain with regions indicated for the "sensus communis," for the imaginative cell, for the cogitative cell, for the memory cell, and for the rational cell; or as Ludovico Dolci, Thomas Willis, Swedenborg, Descartes, Vieussens, or Haller, who gave free rein to their imagination, unchecked by any foreshadowing of what the centuries might disclose. It was not, however, until the early part of the eighteenth century that the idea was clearly outlined. Haller and Zinn, in 1756, professed to have seen convulsive phenomena after injury of the cerebral white substance; but these observations were soon overlooked. It is too much the fashion at the present day to overlook the services which were then unconsciously rendered by Gall and Spurzheim. Both of these Germans were excellent cerebral anatomists, both have left works of unquestionable scientific merit, both were persecuted for opinion's sake,† and both lived in the thick of the times which bred Mesmer and Hahnemann, and the pseudo-scientific, semi-mystical mixture of truth and charlatanism of which Mesmer and Hahnemann were the most illustrious exponents. But Gall and Spurzheim were above the level of Mesmer and Hahnemann, as, apart from the quality of their other work, is evidenced by the fact that they counted among their believers such men as Broussais, Bouillaud, Andral, G. Comte, and, with certain qualifications, also Reil and Hufeland. Even the great Goethe thought their system of phrenology of sufficient importance to enter into an elaborate argument against it. But it is not surprising that this idle pretense of diagnosticating the mental faculties by the protuberances upon the external surface of the skull should have met with no enduring reception, or that, following the teachings of Magendie and Flourens, the medical profession should have veered to the other extreme of disbelief in any cortical localization whatsoever. It is, however, a remarkable illustration of the limitation of the human faculties that such an expert physiologist as Flourens should have failed to obtain any of the diversified and startling cortical phenomena which any tyro knows how to obtain to-day. Flourens, writing in 1824, and reiterating his assertions in 1842, stated unequivocally that removal of the brains of animals produced mental impairment in proportion to the amount of cerebral tissue removed, and not with any relation to the locality. Opposed to his teachings were the clinical observations of Bouillaud, who in 1825 recognized that loss of the memory of words which has in later days come to be known as aphasia; of Marc Dax, who in 1836 * located this symptom in the frontal lobe; of Broca, who in 1863 made a more precise localization within the third frontal convolution; of Andral, in 1834, who then reported cases of paralysis of the arm and leg from cortical disease; of Panizza, who in 1855 reported two autopsies which clearly indicated a relationship between sight and the parieto-occipital region of the hemisphere. It is noteworthy that, in the lively discussion of the subject of aphasia at the Parisian *Académie de médecine* in 1864, much skepticism was expressed, and even the gifted Trousseau, in spite of his peerless clinical instinct, strenuously gainsaid that clinical and anatomical precision of Broca's which time has magnificently vindicated. Notwithstanding these clinical revolts, the influence of Flourens was paramount with such physiologists as Longet, Magendie, Matteucci, Budge, and Schiff until 1870—nearly half a century. Yet the same old vague line of thought was still germinating. In 1867 Theodor Meynert began his brilliant and original series of articles upon the structure of the cerebrum, and announced his theory of the projection-system—*i. e.*, of a nerve-tract which should connect with the cortex of the hemisphere all sensory surfaces and the voluntary muscular system. Through this tract all sensations should travel inward, all motor impulses should travel outward. As he puts it epigrammatically: "A cross-section of the *crus cerebri* would therefore implicate the whole organism, which would simply be smell-less and blind," inasmuch as the olfactory and optic nerves do not pass to the periphery through this channel. The motor portion of this projection-tract went, he maintained, through the nucleus caudatus and the nucleus lenticularis, to the frontal lobe, while the sensory went, by way of the optic thalamus and the corpora quadrigemina, to the occipital and temporal lobes. The epoch-making experiments of Fritsch and Hitzig, in 1870, lent a remarkable confirmation to these teachings, at the same time that they revolutionized the existing ideas of cortical physiology. These original observers demonstrated, in direct contradiction of all previous experimenters, three important series of facts:

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* Read before the Medical Society of the County of Kings, March 15, 1887.

† Gall was forbidden to lecture in Vienna, because, forsooth, it was feared that his views would disturb the minds of men in their feudal beliefs and feudal loyalty.

* Although he first published his views through his son, G. Dax, before the Academy in 1863.

I. That a portion of the convexity of the cerebrum is motor in its function, while another portion is not motor.

II. The motor portion, speaking generally, lies more anteriorly, the non-motor portion lying more posteriorly.

III. Electrical irritation of the motor portion gives rise to combined muscular contractions of the opposite side of the body.

They mapped out in the brain of the dog the centers for the neck muscles (Fig. 1), the extensors and adductors of the fore-leg (+ anteriorly), the flexors and rotators of the fore-leg (+ posteriorly), the muscles of the hind-leg (#), and the facial muscles (⌘). They also removed with a scalpel the center of the fore-leg, and found that the dog in walking set this foot down clumsily, seemingly without intention, sometimes to one side, sometimes to the other, and that this leg slid outward. In standing, the same phenomena appeared, and it was also seen that the foot was occasionally set down upon the dorsal surface. In sitting upon the hinder parts, both fore-feet resting upon the ground, the affected fore-leg gradually slid outward, until the animal lay prone upon the corresponding side of the body.

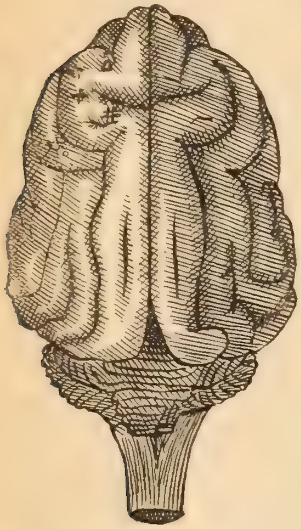

FIG. 1.—(After Fritsch and Hitzig.) Δ, neck muscles ; + (anteriorly), extensors and adductors of fore-leg ; + (posteriorly), flexors and rotators of fore-leg ; # hind-leg ; ⌘ facial.

The paper of Fritsch and Hitzig gave birth to an enormous literature, to which addition is being made daily. The subject has been furiously discussed, and, in one instance, almost led to a personal altercation between two distinguished physiologists. Confirmation of the doctrine thus advanced by Fritsch and Hitzig, of circumscribed cortical centers, came from every side. It was, however, soon shown that the paralysis resulting from destruction of such a center might entirely disappear, although the destruction of the center was proved by an autopsy to be complete.

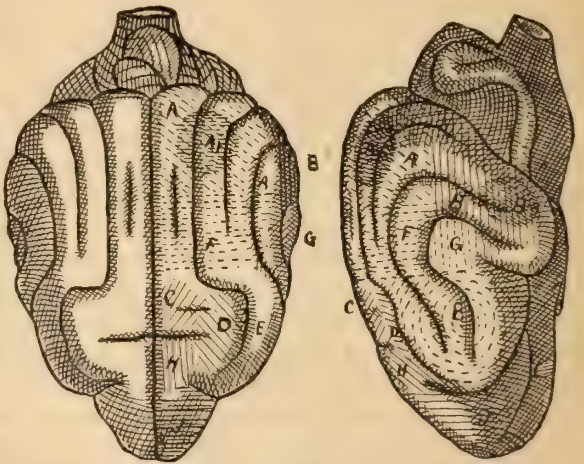

FIG. 3.—(Munk.) A, sight sphere ; B, auditory sphere ; C–J, sensory sphere ; D, fore-leg center ; C, hind-leg center ; E, head center ; F, eye center (for muscles of the eye) ; G, ear center (for muscles of the ear) ; H, center for neck muscles ; J, center for trunk muscles.

This seemed, at first sight, to be a serious objection to the theory ; but further experimentation on the monkey tribe, as well as the results of disease in the human being, demonstrated that this recovery from the resultant paralysis of destruction of a cortical center was only observed in those animals in which the cerebrum played a subordinate part. Some lower animals, for example, run and walk soon after birth. In these, removal of the hemispheres has only a temporary effect, because in them the masses of gray matter lying beneath the hemispheres are relatively of larger development, and perform those functions which are relegated higher up in the scale of nervous evolution to the hemispheres. But even those who have accepted Fritsch and Hitzig's declaration of circumscribed motor centers have not been in perfect accord with them in regard to the exact localization of each area. Ferrier, of London, has been greatly at variance with them, as will be seen by a comparison of the accompanying figure with Fig. 1. And others, while recognizing the existence of cortical centers of which electrization gives rise to muscular movements, and of which removal causes paralysis, have interpreted the phenomena differently from Fritsch and Hitzig. By one of those singular coincidences which have occurred more than once in the history of medicine—showing how public strains of thought will occasionally lead to precisely similar deductions in widely separated and differently environed individuals—Goltz in Strassburg, Munk in Berlin, Moeli in Berlin, and Tripier in Lyons, demonstrated

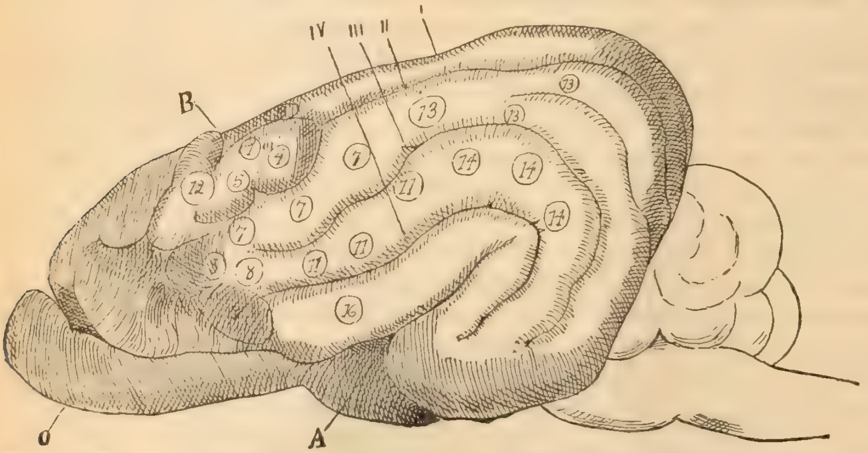

FIG. 2.—(Ferrier.) 1, opposite hind-leg advanced ; 3, lateral movement of tail ; 4, retraction and adduction of fore-leg ; 5, elevation of shoulder and forward extension of fore-leg ; 7, closure of eye through orbicularis and zygomatics ; 8, retraction and elevation of mouth angle ; 9, opening of mouth and tongue movements ; 11, retraction of mouth angle ; 12, opening of eyes, pupillary dilatation, movement of head and eyeballs to opposite side ; 13, movement of eyeballs to opposite side, with slight diagonal deviation ; 14, pricking or sudden retraction of ear ; 15, torsion of nostril. The figures omitted indicate centers inert in the dog, though active in monkeys, according to Ferrier.

that limbs paralyzed by removal of their cortical centers showed a loss of sensation as well as of motion. To the excitable area of the cortex, therefore, which Hitzig had regarded as purely motor, Munk gave the name of "sensory sphere" (*Fühlssphäre*). (See Fig. 3.) But Munk carried his experiments still further, and showed that lesions of the occipital lobe produced peculiar disturbances of sight. If the area A (Fig. 3) were removed on both sides from the two hemispheres of a dog's brain, he would see things, would avoid objects placed in his path, but would be unable to recognize these things and objects. He would view with indifference his master, other dogs, his food; would not wink at the approach of a light or a finger to the eye; would not recognize the whip, at sight of which he had been taught to go into the corner. But if he were permitted to take cognizance of his master, his food, etc., with the other senses, he recognized them as usual—thus, he ate food after smelling it, or retreated before the whip when it was cracked. This non-recognition of objects seen was termed by Munk "soul-blindness" (*Seelenblindheit*). A better name, I think, would be "mental blindness." The removal of this same area A on one side produced mental blindness of the opposite eye. On the other hand, removal of the area A, which surrounds A, caused absolute blindness;* and Munk professes to have determined that different sections of the retina are connected with different portions of this area A. He asserts that removal of the inner medial half of this area produces absolute blindness of the inner half of the opposite retina; that removal of the inner third of this area produces absolute blindness of about one third of the inner part of the opposite retina; that the anterior half bears the same relation to the upper half of the opposite retina, while the posterior half is connected with the opposite lower retinal half. But the most curious of all that Munk professes to have demonstrated in this connection is that the fibers from the *macula lutea*, the retinal point of most distinct sight, terminate in the area A, so that the symptoms of mental blindness are associated with absolute blindness as regards distinct sight. Upon this anatomical peculiarity Munk bases an explanation of the mental blindness. Distinct sight, he says, through the fibers of the *macula lutea*, gives us usually our visual impressions. When the cortical termination of these macula-luteal fibers is removed, a certain time must elapse before we can become accustomed to receiving visual impressions through fibers from other parts of the retina, which, as we have seen, terminate in different parts of the area A; and, as a matter of fact, mental blindness is a symptom of short duration. It may be stated here at once, though, in anticipation of what should follow, that, however well this explanation may apply to dogs, it does not hold true of man, for cases have since been reported of mental blindness without accompanying impairment of distinct sight, and, contrariwise, of lesion of the *macula lutea* without mental blindness. Munk also indicated the area B of the parietal lobe as the center of hearing, removal of it giving rise to mental deafness of the same nature as the mental blindness just described.

The nicety of observation, the judicial tone, the care, patience, and time evidenced by each successive communication—all combined to attract great attention to the dicta of this Berlin physiologist. Nevertheless, although he soon had many followers, he did not meet with universal confirmation. Ferrier, of London, whose experiments began in 1875, following those of Fritsch and Hitzig, and supplementing these in many matters of detail, flatly contradicted Munk in regard to the sensory nature of the excitable region, as well as concerning the optic and auditory centers and their nature.

It will be readily seen that at this stage of its evolution the subject was involved in the most inextricable confusion. It became simply a matter of bias as to what a man should believe. Each physiologist maintained that there were inherent defects in the method of experimentation of the others, and each brought forward to the support of his own views facts that had either to be denied *in toto* or else accepted, to add to the doubt (compare Figs. 1, 2, 3, 4). It is not to be wondered at, then, that Goltz, of Strassburg, afterward supplemented by his pupil, Loeb, should have voiced the sentiment of many by denying altogether the doctrine of circumscribed cortical centers. He repeated especially the experiments of Munk, and stated that he obtained entirely dissimilar results. But it may be said here, once for all, that, although Professor Goltz has been extremely useful as a censor, his experiments do not warrant his conclusions; indeed, he refutes himself, so that, in similar terms to those which Shakespeare puts into the mouth of Hamlet addressing Rosenkrantz and Guildenstern, he has fretted the advocates of cortical localization, but he has not played upon them—he has not stopped their way.

But the continuance of the study upon human beings has been rewarded by more permanent conclusions. Pathology has gone hand in hand with physiology. Each has its advantages. The skull of a dog or an ape can be trephined at will, and just as much removed of the cerebrum as the operator desires; the animal can be kept constantly under observation, and often, when there are no fatal results, for a considerable length of time, and the operation can be repeated. Focal alterations of the human brain are rarely so localized, and can not, of course, be produced at will, or kept so well under observation; so that conclusions which may rest upon a few months of physiological experiment can not be contradicted or verified except by years of widespread and isolated observations upon the human subject. On the other hand, human beings, with their superior intelligence, are infinitely better subjects for testing the manifold details of motion and sensation. It is, therefore, I think, the better proof of the truth of the doctrine of localization that the experiments of physiologists upon the dog and monkey tribe should have tallied so well with the experiments of disease upon the human being. The individual facts of the latter kind, upon which my conclusions are based, are too numerous to be considered in a work of this kind. Any one who desires to review the testimony will find full references in the appended bibliography. It must suffice my purpose to indicate the conclusions.

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* This absolute blindness Munk would have us call "cortical blindness" (*Rindenblindheit*)—a perfectly meaningless and pedantic term, it seems to me, that can only serve the purpose of making the confusion of cerebral nomenclature worse confounded. Munk himself has felt obliged to attach a parenthetical explanation almost every time he has used it.

Regarding the human brain, there are two sets of facts—one set that is indisputable, another that is still under discussion. Let us first consider the former.

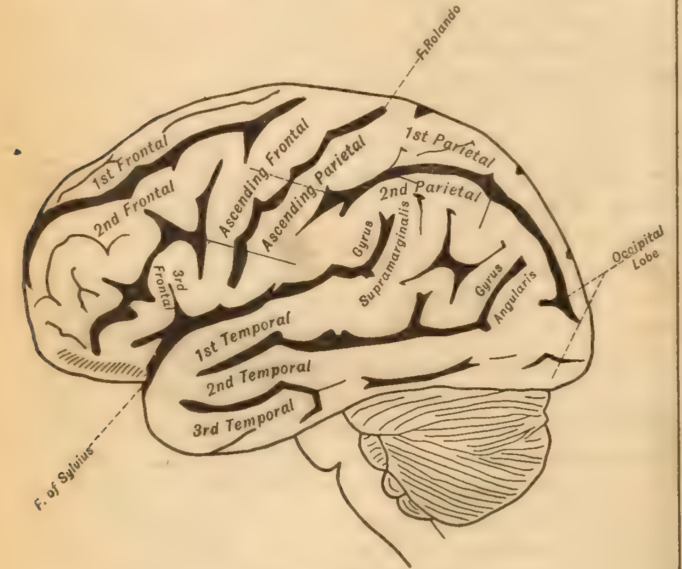

Fig. 4.—(After Ecker.)

Look at Fig. 4, in which the different convolutions are indicated. The ascending frontal and parietal convolutions are divided into three equal parts. Of these, the upper third, with the adjacent portion of the base of the first and second frontal convolutions, contains the center for the lower extremities; the middle third, with the adjacent base of the second frontal convolution, contains the center for the upper extremities; the lower third, with the third frontal convolution, contains the centers for the face, neck, and speech muscles. Fig. 5 represents the medial surface of the hemispheres. The so-called "paracentral lobule" is the medial surface of the upper part of the ascending parietal and frontal convolutions, and therefore contains the center for the lower extremities, although lesions of this medial surface are comparatively rare. It will be perceived that this paracentral lobule is the only part of the motor convolutions that reaches to the medial surface of the hemispheres. This area upon the convex and medial surfaces is that of what may be called the "facio-phonetic-skeletal region." Lesions of it produce impairment, in the manner indicated, of the upper and lower extremities, of the facial and neck muscles, and of the motor mechanism of speech. It may justly be regarded as proved that the paralysis of the limbs and the face is both motor and sensory, that the motor and sensory paralysis are not always of equal intensity, that the one may occur without the other, and that the area within which sensory paralysis may be produced is of larger extent than the motor area, inasmuch as the former embraces the two parietal convolutions (Fig. 4). It will be seen that I have mapped out these areas somewhat indefinitely.

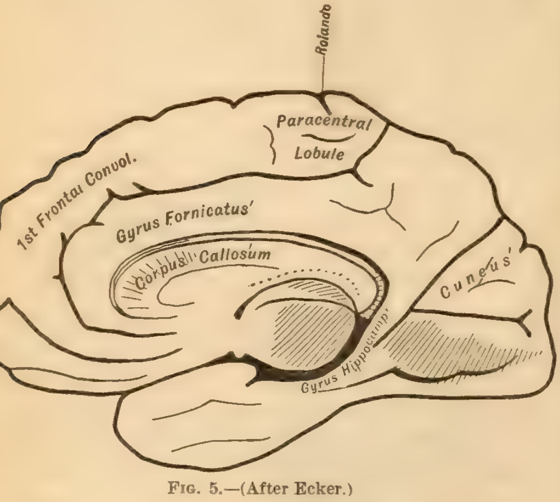

Fig. 5.—(After Ecker.)

In matters of this kind one is greatly tempted to draw precise circles for each center, and, doubtless, positivism of this kind saves much trouble to those of great faith; but I can not reconcile facts to such a sharp delimitation. In truth, the areas overlap one another, just as the convolutions pass imperceptibly into one another, and the time will never come when a man will be able to mark a line on a convolution and say that it is a precise boundary-line between two centers, so that at one one-hundredth part of an inch to one side there will be certain symptoms, and totally different ones at one one-hundredth part of an inch to the other side. The centers can only be *approximately* demarkated, not *absolutely*.

There are also good clinical reasons for believing that each different kind of sensation—the tactile, pain, temperature, and muscular senses—has a cortical center of its own; but it has as yet only been determined that the muscular sense has probably its center in the parietal convolutions.

The center of sight is to be found in the occipital lobe and the angular gyrus (Fig. 4). There has been a fierce discussion regarding this center between the followers of Munk and those of Ferrier, the former denying that the angular gyrus had any part in this center, the latter affirming that any visual impairment must implicate both angular gyrus and occipital lobe. But the experiments of Luciani and Seppilli, and the cases collected by these gentlemen, warrant the assertion that the center embraces both angular gyrus and occipital lobe, although with this distinction, that lesion of the angular gyrus alone produces mental blindness, while lesion of the occipital lobe produces absolute blindness of the same half of the two retinæ (lateral *hemiopia* *). Brill has reported a case of color-blindness in which the lesion was in the cuneus, the medial portion of the occipital lobe; and Seguin and Hun have reported cases of hemiopia due to disease of the cuneus and the adjacent temporal convolution. It is not yet certain whether disease of the angular gyrus causes visual symptoms by implication of the optic tract, which passes just beneath it, or whether the angular gyrus is itself a true terminal center of some fibers of the optic tract.

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* Hemiopia is derived from the two Greek words "ἥμισυς, half," and "ὄπτομαι, to see," meaning therefore half sight. There is another somewhat similar word, which has led to much confusion—hemianopsia, from "ἥμισυς, half, ἄν (for ἄνα), each, and ὄψις, sight," meaning also half sight. It seems to be agreed at the present day that by arbitrary custom hemiopia shall mean the condition of the retina, while hemianopsia shall be applied to the crossing of the rays of light in the media in front of the retina. Thus, a left *hemiopia* will indicate that the left halves of both retinæ are blind, so that the patient, not being able to see objects to the right of either eye, shall be said to have a right *hemianopsia*.

The center of hearing may be located in the first and second temporal convolutions (Fig. 4), although this area does not seem to be so constant a center as some others in the cortex, for the writer and Kussmaul, perhaps also Westphal, have reported cases in which a lesion was located here without the expected auditory symptoms. It is curious, however, that the left lobe seems to be mainly affected, the right side seeming to be of greatly subsidiary importance, Luciani and Seppilli stating that it is never affected alone, while the lesion is very seldom in both temporal lobes. It is curious, too, that the cases have so far always presented the symptom of mental deafness analogous to the mental blindness, as described above, and never any absolute deafness.

The cases of cortical production of loss of smell or loss of taste have been too scanty to define the centers of those two special senses, although it is probable that the olfactory center is in the hippocampal convolution (Fig. 5).

As Goltz has combated the physiological advocates of cortical localization, so has the distinguished Brown-Séquard vigorously opposed the clinical defenders of the same doctrine. But Brown-Séquard's collection of cases is open to two fatal objections: Firstly, his cases antedate the period of accurate knowledge of cerebral topography; secondly, he fails to take into account the fact, which had been demonstrated by the embryological researches of Flechsig, that the motor tracts do not decussate or pass over to the opposite side in all human beings, and that consequently a paralysis may be on the same side as a cerebral lesion, and yet not militate against the doctrine of localization.

Let us now consider the facts that are still under discussion.

In some cases a lesion outside of what has been deemed the center will produce the symptoms which result from lesion of the center itself; and, again, lesions of the center that are ridiculously minute will produce as marked symptoms as if the whole center were implicated. For these reasons Exner constructed the following chart (Fig. 6), in which it will be perceived that lesions at divers points of the cortex have produced the same symptoms, although there is for each function a certain area within which the lesions are mainly grouped. This area of densest grouping of lesions Exner regards as the true center. The figures which represent the experiments on dogs and monkeys of Luciani and Seppilli tally remarkably with the pathological data collected by Exner, as will be seen by Fig. 7. What, then, is the meaning of the production of similar symptoms by lesions outside of the center? I take it to be that lesions at a distance from the true center can inhibit the action of that center. These phenomena of inhibition are very familiar to us in the peripheral nervous system. All practitioners are aware of the many nervous disturbances which are removed by removal of a tight and redundant prepuce, a urethral stricture, a diseased ovary, a post-nasal catarrh, errors of ocular refraction, tumors of peripheral nerves, etc. In these instances the nerve tract to the spinal cord or the cerebrum is a comparatively long one. But in the cerebrum the commissural tracts, connecting different areas of the cortex, are far shorter and more numerous than those leading from the nervous axes to the periphery. How much more effective, then, must be the inter-cortical inhibition. But this very probability also makes evident—what has been singularly disregarded by writers upon localization—that the locality of a lesion can only be diagnosticated with *probability*, not with *certainty*.

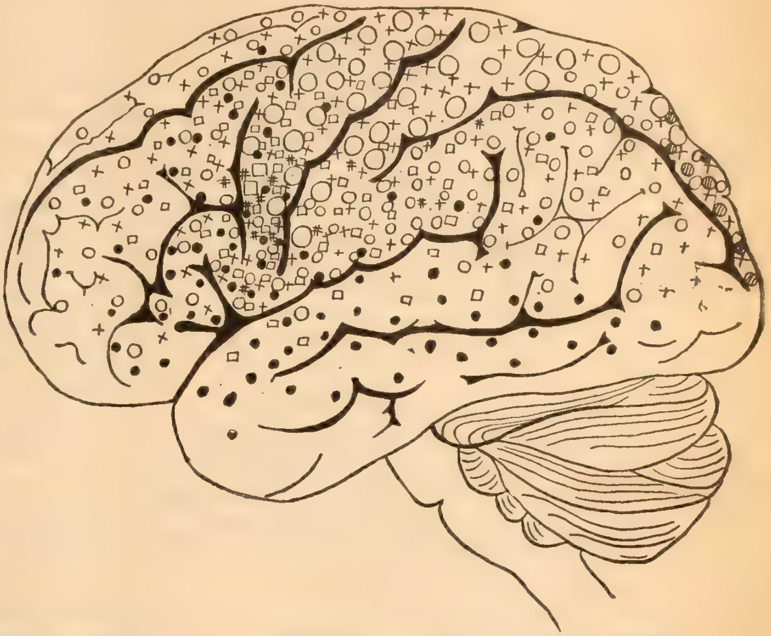

Fig. 6.—(After Exner.) ○, upper extremity; +, lower extremity; □, facial; #, hypoglossus; ● speech; ◉ sight.

From this review we perceive that the doctrine of cortical localization is far too well grounded upon facts of eternal verity to be flippantly sneered at, although much remains to be done in the way that has been hewn out of primeval ignorance and acquired obstinacy. Like all truths that have lurked undiscovered for centuries, except those that do not require skilled experimentation or trained observation, it has had to rely upon the testimony of a cloud of witnesses, each one varying in competency or bias, and the result has been the ordinary one of a long trial of issues of fact before an ordinary jury—a failure to convince every one. But the jurors of science can wait for all time, the trial is never closed, and no verdict, however conclusive it may seem at the time it is given, will stand for one hour in the face of a newly discovered fact. In spite, therefore, of uncertainties about minor points of detail, we must admit that we have localized the cortical centers for the motor and sensory nerves of the limbs and face, for the mechanism of speech, for the optic nerves, and probably also for the auditory nerves.

The question now arises, What is the meaning of these centers in the cortex? It is simply that each center is the cortical area in which certain nerve-tracts terminate. Mind is, to a certain extent, a mystery, and will probably remain so, to a certain extent, for many generations, perhaps ages, yet to come. But this mystery called mind is dependent for its healthy manifestation upon the structural integrity of the cortex, and of the whole of the cortex. Hence the cortex is justly called the organ of the mind. This mind can only come into communication with the world that lies outside of the skull-cap by the material highways of the nerves, some of which carry impressions into it, others of which carry actions out from it. Thus, mind sees by means of the optic nerves, hears by means of the auditory nerves, tastes by means of the gustatory, feels by the tactile, muscular, pain-bearing, and temperature-telling nerves, acts by means of the motor nerves, and educates itself by means of them all; and the so-called "centers" are simply the areas of the cortex in which these different nerve-tracts terminate. These centers are the cortical stations for the great trunk-lines of the peripheral nerves. It is easy to understand that there may be regions of the cortex in which there are none of these terminal nerve-stations, none of these centers, and that lesions of these regions may therefore not produce any impairment of the peripheral nerves of sense and motion, but rather give rise to purely mental symptoms, disconnected with motion or sensation. It is also easy to understand that, as has been indicated, lesions of the cortex outside of the centers should impair the action of the center itself by inhibition along commissural nerve-fibers connecting one cortical area with another. Nor is it difficult to unravel the seeming complexity of certain symptom-groups which have puzzled clinicians until a recent date. For example, aphasia may be both motor and sensory. When the lesion is seated in the third frontal convolution (Fig. 4), the aphasia is motor, the patient's mind is unable to act upon the muscular machinery of speech, and he can not give expression to words. When the lesion is in the first and second temporal convolutions, the patient loses the memory of words, fails to recognize spoken words; he has the so-called "word-deafness," although he may hear perfectly well, and although he may be able to articulate words well enough. If both the third frontal convolution and the two temporal are diseased, the patient can necessarily neither articulate nor recollect words. If a lesion implicates the angular gyrus, he may fail to recognize objects that he sees, or, in some instances, the non-recognition of objects seen may be confined to words; and if the lesion extends into the occipital lobe, this non-recognition of objects seen may be complicated with blindness of one half of the retinæ (*hemiopia*). Mind itself, in all these symptoms, may be intact, left isolated, as it were, in the cortex, shut off from its motor and sensory communication with the outer world.

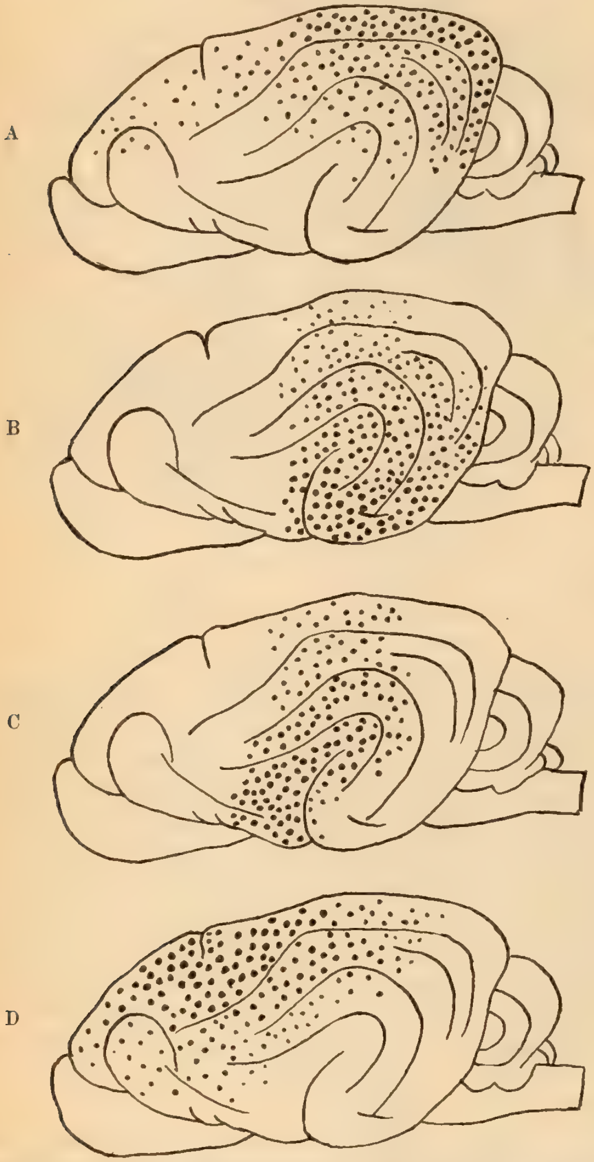

Fig. 7.—(After Luciani and Seppilli.) A, center of light; B, center of hearing; C, center of smell; D, sensory sphere.

Note.—The writer desires it to be understood that there are many facts pointing to more localization than has been indicated in the foregoing article, and some of them seemingly quite precise too. For instance, Dr. A. Fraenkel describes (Charité-Annalen, 1886) a case observed in the Charité Hospital of Berlin in which, during life, a diagnosis was made of meningitis because of the retraction of the neck, and in which there was found post mortem a softening of the base of the second frontal convolution extending into the middle third of the ascending frontal (see Fig. 4), thus confirming in a remarkable manner the localization of the center for the neck muscles made by Wernicke several years ago, after careful consideration of the experiments upon apes and monkeys (see Fig. 1, Δ, and Fig. 3, H). But again and again has experience taught us, in the seventeen years that have elapsed since the original discovery of Fritsch and Hitzig, that it is not safe to locate a center upon one or two observations. The writer has, therefore, only spoken of those localizations which he believes to have been adequately settled.

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THE CLINICAL *VERSUS* THE MICROSCOPICAL EVIDENCES OF MALIGNANT DISEASE.*

By HENRY C. COE, M. D.

I HAVE adopted a sort of legal phraseology in the wording of this title, in order to bring out the fact that it implies a contrast, or rather an actual opposition, between two lines of investigation—the work of the clinician on the one hand, and that of the pathologist on the other. That such an opposition does exist must be evident to any impartial observer who considers the attitude which practitioners assume toward those gentlemen who are recognized as experts with the microscope. Being only a dabbler in pathology myself, I may hope to examine both sides of this question with a fair amount of impartiality. While the scientific physician has had his faith in the microscope greatly strengthened by its achievements in the field of bacteriology, there are not wanting a large number of acute diagnosticians who cherish (like old Dr. Jackson, of Harvard) boundless confidence in the powers of their unaided vision. Nothing gives one of the latter gentlemen more solid satisfaction than to catch a pathologist in a slip, and the patient worker in the laboratory derives on his part no small amount of innocent amusement from the erroneous diagnoses of his skeptical *confrère*. There seems to be an instinctive feeling of jealousy or distrust between the two, which is as deplorable as it is unwarranted. It is my purpose to examine into the causes of this want of confidence, and to see if some compromise can not be effected.

It is not uncommon in our medical societies to see a surgeon present a specimen which he has removed, the character of which he, of course, recognized clearly before the operation. A small piece of the growth was sent to some prominent microscopist, who promptly pronounced it to be malignant and gave an unfavorable prognosis, which the patient nullified by making a permanent recovery. The surgeon naturally has a fine opportunity to reflect upon the unsatisfactory results of histological studies, of which he does not fail to take advantage. Or, to present another familiar experience: A tumor is passed around at a meeting, while the gentleman who removed it tells with great glee how he has pitted one pathologist against another by sending each a bit of the growth (without any accompanying history), and has obtained reports which were absolutely contradictory; he then pronounces his opinion as to which expert was right, and the natural impression left on the minds of the audience is that the other gentleman must have made a very bad guess. Fancy the feelings of the latter if he is so unfortunate as to be sensitive to such public criticism.

The tendency of such unfair treatment of men who give a large portion of their time to severe, exacting work, with small compensation or approbation, except that which they receive from the consciousness that they are trying to add to the sum of medical knowledge, is to bring discredit both upon their personal accuracy and upon the special branch to which they are devoted. Because we do not appreciate all the doubts and difficulties which surround pathological histology, we have no right to characterize it as an inexact science of little practical value. Some men can never understand that it is often just as unreasonable to send a minute fragment of tissue to a microscopist with a request for a prognosis regarding the patient from whom it was removed, as it would be to submit to an artist a square inch of canvas cut from a large painting in the expectation that he would be able to describe the picture from which it was taken. The marvelous acumen of the *savant* who examined the mysterious fragment from the ear of About's desiccated hero,* and promptly settled the question of his resuscitation, has unfortunately not yet been acquired by our modern experts. In short, the practicing physician and surgeon expects too much of the pathologist to whom he sends a specimen, and forgets that it is frequently impossible for the latter to give the positive information that is demanded of him. Instead of trying to afford as much assistance as possible to the microscopist in his difficult task—by furnishing ample notes of the case and describing the appearances found at the time of operation, and, above all, by allowing him to examine the *entire* specimen—the surgeon is prone to submit the case as if it were a sort of catch question, the expert being allowed only the faintest clew with which to begin.

As compared with the careful work required in bacteriology, the examination of tumors is now regarded as the A B C of pathological histology, yet how often is the pathologist compelled to return an evasive, or at least a somewhat general, answer to the question, "Is this a malignant growth, or is it not?" It is hard for those not acquainted with the inherent difficulties of the subject to understand why one can not always say "yes" or "no" to this question. I need not remind you how far-reaching may be the consequences of the pathologist's decision, since it always involves a patient's peace of mind, and often his or her life. If a case terminates unfortunately, the surgeon is only too happy to shift some of the responsibility upon the unfortunate microscopist, on whose recommendation he has performed an operation.

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* Read before the New York Clinical Society, April 22, 1887.

* In the ingenious novel by that author entitled "L'Homme à l'oreille cassée."

Admitting the importance of the pathologist's opinion in cases of suspected malignant disease, we naturally ask: Is it safe to base a diagnosis upon either the clinical data or the microscopical appearances alone? Is not the antagonism which sometimes appears to exist between the clinical and microscopical evidences of malignant disease more apparent than real? In endeavoring to reply to these questions, I shall draw my conclusions mainly from cases of disease of the female pelvic organs, since it seems to me that the gynæcologist most often has occasion to seek the aid of the microscope in clearing up doubtful diagnoses. This is due to the fact that in his department the symptomatology is not varied, so that the same clinical phenomena are common to several different pathological conditions, while the physical examination is often practically negative. Unfortunately, the tendency of modern abdominal surgery is such that explorative laparotomy is too often performed in obscure cases, even before the pathologist has had an opportunity to see if he could not throw some light upon the condition. From my own experience, I can unhesitatingly affirm that in uterine pathology it is sometimes extremely embarrassing to be called upon for a positive opinion with the scanty data afforded. To cite a familiar illustration: It is a matter of every-day experience for a pathologist to receive minute fragments of tissue removed from the interior of the uterus with the curette, with a request from the sender to inform him whether they are of a malignant character, or are merely ordinary "fungosities." It seems to the practical gynæcologist as if it was a very simple matter to give a definite answer, yet it is often extremely puzzling. The question is rendered still more complicated if the sender adds a brief history of the patient, describing symptoms which closely simulate those of malignant degeneration of the endometrium. Perhaps the surgeon has already formed his opinion, and confidently expects the microscopist to confirm it. So closely may isolated fragments of the hypertrophied mucosa, crowded with leucocytes, resemble round-celled sarcoma, especially if one is obliged to examine the tissue in a fresh state, that not infrequently we must return an evasive answer.

I once received a uterus removed by laparotomy, the mucous membrane of which was the seat of the rare disease described by Schroeder as "diffuse malignant adenoma." There was no question about the malignancy of the growth when viewed *in situ* and the expediency of the operation, but nine men out of ten, on examining scrapings from the interior of the organ, would have entertained no doubt regarding its benignancy. Obviously, when examining such scrapings alone we can not apply the test of malignancy given by Friedlander—viz., that "the process is not confined to the mucous membrane, but also invades the muscular tissue." Goodell, in his "Lessons in Gynæcology," mentions several cases in which the pathologist was widely at fault in his prognosis of intra-uterine disease, and the special literature abounds in similar examples. But, while I have fortunately never seen a non-malignant uterus removed in accordance with the positive recommendation of the pathologist, I have examined slightly diseased organs that had been extirpated because the clinical evidences were regarded as sufficient without the assistance of the microscope. I could, however, mention many cases in which the microscopical examination of tissue removed from the uterine cavity *has* cleared up an obscure diagnosis in a highly satisfactory manner, but I shall confine myself to those doubtful conditions, in which it is most desirable to obtain positive information and yet it seems to be impossible to find a clew. Even where the pain, hæmorrhage, fœtid discharge, and constitutional symptoms seem to indicate beyond question the presence of malignant disease of the corpus uteri, the tissue submitted to the pathologist is often so necrotic that characteristic sections can not be obtained. A sloughing fibroid may simulate cancerous ulceration both clinically and microscopically.

How often do we receive portions of a cervix with the question "Is it epithelioma?" I know of few questions that require nicer discrimination. It may be necessary to examine a number of sections before any positive information can be obtained. The gynæcologist has generally made up his own mind and does not understand why the pathologist should hesitate. It is unnecessary to mention the serious consequences that may result to the patient from a hasty decision, especially in these days when vaginal hysterectomy is becoming so popular.

The subject of malignant growths of the ovaries (also of the omentum and peritonæum) is one that interests the general practitioner not less than it does the specialist, on account of the frequent occurrence of ascites and the difficulty of accounting for it. We not infrequently meet with cases that upset our previous notions regarding cachexia as an evidence of malignancy. A robust, handsome woman of thirty-five came to the Polyclinic complaining of a slight ulceration of the navel, of a few weeks' standing; it was quite sore and was occasionally the seat of shooting pains. Her general health was excellent, and she had no pelvic symptoms of any consequence. She was so stout that the vaginal examination was negative. At the umbilicus there was a reddish, sensitive nodule about as large as an English walnut; it apparently involved the skin only. A diagnosis of probable sarcoma was made, and the patient was sent to the Woman's Hospital, being told that a slight operation was necessary. Not to enter into the details of the case, I shall only add that the apparently insignificant nodule proved to be the outgrowth of a carcinomatous mass that involved the uterus, both ovaries, the omentum, and parietal peritonæum, as was more fully revealed at the autopsy.

It is by no means uncommon for the laparotomist to find at an operation that what he took for a simple ovarian cyst is a malignant growth, the character of which would never have been suspected from the age and condition of the patient. So much for the paucity of clinical evidence.

Does the microscope furnish any assistance? I am convinced that in cases of cancerous ascites, especially where there are secondary growths on the peritonæum, the examination of a drop of the fluid often gives us a valuable clew to the condition, even when characteristic symptoms are wanting. I need only refer to the significance of the sprouting cell-groups described by Foulis and Thornton. I am sure that the detection of these in large numbers enables one to state quite positively that malignant disease (sarcoma, carcinoma, or papilloma) *is* present, and, moreover, that it is of a peculiarly exuberant or dangerous type. Explorative incision is so commonly fatal in these patients that it is always desirable to spare them that risk if possible. Here, then, is a sphere of usefulness for the pathologist that is worth enlarging. But we can not be too cautious in basing a decided opinion on a single examination of a specimen of fluid; the statements originally urged for "Drysdale's corpuscle" have not always been substantiated. Moreover, there is no microscopist who would be willing to state decidedly that a given specimen of ovarian fluid was obtained from a proliferous cyst that had undergone malignant degeneration, since it might not be easy to tell, even after a careful examination of the entire tumor, that the papillomatous masses had passed the insensible boundary-line which separates the benign from the malignant. Clinically, surgeons are beginning to consider all proliferous cystomata as more or less malignant, but anatomically this does not hold good. But, since Doran has shown that parovarian cysts (which were formerly supposed to be so harmless) are prone to undergo papillomatous degeneration, especially after tapping, and Tait has expressed his belief that "the growth of ovarian tumors is associated with a tendency toward malignant disease," it is evident that our prognosis must be marked with caution, even where the case is apparently a simple one. Dr. Mathews Duncan expresses the prevailing opinion of laparotomists when he says: "In fact, we have, in all departments of ovarian diagnosis, more to admire in the zeal and diligence of histologists in regard to the fluids than in the exactness and reliability of the practical results they can show."

I have cited examples derived from a single branch of medicine, but the principle is susceptible of general application. The surgeon removes a suspicious nodule from the lip, which he has every reason to believe is epitheliomatous, yet the microscopist may examine a dozen sections before he finds a confirmation of the diagnosis. A so-called recurrent fibroid may be absolutely benignant anatomically, yet the surgeon is justified in regarding it as on the border-line of malignancy, if it has not actually crossed it. Some curious painful nodules suddenly appeared in the skin of the abdomen in a hyperæsthetic woman who was convalescing after laparotomy. They were submitted to different gentlemen, the majority of whom pronounced them to be pseudo-neuromata; one microscopist, on the contrary, found, after examining numerous sections, appearances that, as I observed them, certainly seemed to justify the diagnosis of round-celled sarcoma of the nerves. Yet there was nothing in the clinical facts to warrant this conclusion, nor has the subsequent history of the patient served to support it. I might multiply examples, but enough has been cited to justify me in affirming that there are cases in which it is unsafe to base a diagnosis of malignant disease upon the opinion of either the pathologist or the clinical observer alone.

It remains to ask whether there is any real antagonism between the deductions of the two observers, or whether it is not due rather to a disposition on the part of each to cling tenaciously to his conclusions without admitting the possibility of an error in his premises. When we see a surgeon remove a tumor, and remark confidently to the bystanders, "I know this to be malignant, whether pathologists agree with me or not," the natural inference is that it is hopeless to expect that such a man will submit to the final arbitrament of the microscope. Conversely, when a pathologist boldly states that a small, non-characteristic fragment, removed at random from a doubtful growth and sent to him without a history, is malignant, and ventures to add a prediction regarding the ultimate termination of the case, he often lays himself open to the same liability to error as the microscopist who reads your future, "while you wait," in a single leucocyte. I think that a pathologist owes it to his own reputation to decline to give a positive opinion in a doubtful case, unless he has had an opportunity to examine the entire specimen, and to select from it such portions for examination as he thinks to be most likely to throw light upon its character. As you well know, this selection often requires no little discrimination. How often are portions of the same tumor sent to different pathologists, whose reports seem to be contradictory because their specimens are essentially different in structure! One thinks that he has to do with a fibroma, another with a myxoma, while a third has received a piece that presents evidences of malignancy.

There are certain excellent practitioners who, not understanding the inherent difficulties of the subject, can not see how the worker in the laboratory can spend an hour or two examining sections under the microscope without, after all, arriving at what they consider a definite conclusion, while they, with their less refined methods, would reach one in as many minutes. The microscope appears to them rather a scientific plaything than an actual aid to diagnosis. On the other hand, the pathologist, accustomed to the deliberate, painstaking methods of the laboratory, views with distrust the rapid, and often superficial, manner in which his practical *confrère* makes his deductions.

There is no real antagonism between the results obtained, unless truth is antagonistic to itself. It is the observers and not the observations that are in opposition. Eliminate the personal equation, and the extremes tend to meet. The practitioner ought to feel that his work is supplemented by that of the pathologist, while the latter would do well not to be above using all the clinical data that he can obtain with regard to the patient from whom a given specimen was removed. Instead of submitting questions to a microscopist as if the object was to catch him in an error, the profession ought to furnish him with all the information possible, so that he may take up the clew where it was dropped, as it were. So important is it to exhaust every means of arriving at a correct diagnosis in cases of suspected malignant disease, and so weighty is the question of prognosis, that we can not afford to neglect a single aid. Continued observation of the patient, repeated physical examinations, and a frequent resort to the microscope, can alone clear up obscure points. If this course is adopted, the apparent discrepancy to which reference was made will generally be reconciled. But if "snap-diagnoses" are indulged in, either at the bedside or in the laboratory, gross errors can hardly be avoided.

If there is any lesson to be drawn from these desultory remarks, it is this: We ought not to be satisfied with a single line of investigation if it tends to dwarf our views. If it is foolish for the severely practical man to esteem lightly the revelations of the microscope, it is equally reprehensible for the special worker with that instrument to study disease through its lenses alone.

Doubtless the higher medical education of the future will evolve a physician who will combine in himself the brilliancy and dash of the accomplished diagnostician with the patience and accuracy of the microscopist.

DESCRIPTION OF
A MODIFIED LARYNGECTOMY.*

By J. SOLIS-COHEN, M. D.

In many larynges removed entire or practically entire for carcinoma or for other disease rendering their retention perilous to the life of the individual, there has not been the slightest evidence of disease found in the thyreoid cartilages. It seems barbarous to me, therefore, other things being equal, to remove these structures unnecessarily; the more that dangers from the operation, immediate and remote, are infinitely greater than when the cartilages can be left in their normal situation with the inferior constrictor muscles of the pharynx in position, and many other structures left undisturbed which, in complete laryngectomy, are necessarily injured, disturbed, and left exposed. The operation about to be described removes the entire respiratory portion of the larynx, leaving the greater portion of the protecting thyreoid cartilages undisturbed to perform their function as shields. As performed on the dead subject by myself and by Dr. Edward Martin, my chief of clinic in the laryngological department of the Philadelphia Polyclinic, an exsection of the larynx, such as is shown in the specimen herewith exhibited, can be done within two minutes. The gap left in the body is insignificant in comparison to that following complete laryngectomy, and a firm support is retained for the accommodation of an artificial substitute for the parts removed. The operation will give sufficient access in many cases for removal of implicated portions of œsophagus and pharynx; and in cases of disease limited to the interior of the respiratory tube, or to the soft portions of the larynx, especially in cases not carcinomatous, it should fulfill every indication which has prompted entire laryngectomy, and without exposure to risks as great. It is applicable to the unilateral procedure as well as to the bilateral one.

After I had performed this operation on the cadaver by several methods from above and below, and was desirous of determining which was the most expeditious and the readiest, Dr. Martin kindly performed some twenty or more additional operations.

Instruments required: a cartilage knife; a scalpel, medium size; a pair of strong cutting forceps, with narrow blades; blunt and sharp-pointed scissors; two strong blunt hooks, or retractors; volsellum forceps, artery forceps, bull-dogs, tenacula, dissecting and dressing forceps; director, ligatures, sutures, needles.

The following detailed steps in the operation are presented by Dr. Martin and myself as the result of these investigations:

1. Make an incision from the hyoid bone to the lower border of the cricoid cartilage, and exactly in the middle line.
2. Carefully separate the sterno-hyoid muscles.
3. Hold the soft parts aside and insert one blade of a strong cutting forceps with narrow blades from above, beneath one wing of the thyreoid cartilage, one fourth of an inch from the angle of junction with its fellow, and sever the cartilage vertically its entire length through to the crico-thyreoid membrane.
4. Make a similar cut on the opposite side.
5. Seize the freed angular portion of the thyreoid cartilage, comprising its entire respiratory contingent, with a volsella forceps and draw it to either side, the soft parts being separated meanwhile from the inner surfaces of the detached wings of the thyreoid cartilages with the handle of the scalpel.
6. Make a transverse cut to sever the cricoid cartilage from the trachea. (At this step, in the living subject a sterilized cotton plug should be inserted into the upper end of the trachea, preliminary tracheotomy having been performed previously.)
7. Lift the cricoid cartilage forward and carefully separate it with the edge of the knife from the inferior cornua of the thyreoid, laterally and superiorly, and then from the œsophagus posteriorly.
8. Insert a finger into the pharynx from below and carry its tip over the epiglottis to draw that structure down.
9. Divide the thyreo-hyoid membrane and the fibrous tissues still holding.
10. Lift out the exsected respiratory portion of the larynx.

The arteries likely to require ligation will comprise small branches of the superior, middle, and inferior laryngeals.

Upon the living subject the operation should be strictly aseptic, and where practicable should have been preceded by several days by a preliminary tracheotomy. The trachea may be occluded superiorly by a small rubber bag attached to the smallest-sized soft catheter, introduced through the tracheal wound, above the cannula, and then inflated. The cannula may be temporarily removed during the introduction of the bag and its inflation.

Advantages alleged for this procedure:

1. Its rapidity, ease, and comparative safety to the patient.

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* Read before the American Laryngological Association at its ninth annual congress.

2. The small size of the wound.

3. The preservation of the attachments of the thyreo-hyoid ligament and the greater part of the membrane, and of the thyreo-hyoid, sterno-thyreoid, stylo-pharyngeus, and inferior constrictor muscles; leaving—

4. Important functional structures retained in their normal relations for deglutition; and leaving—

5. A firm, natural support for the adjustment of artificial substitutes for the larynx.

For these reasons it is submitted that this procedure should be preferred to complete laryngectomy whenever not precluded by extent of disease.

ECZEMAS AND THEIR TREATMENTS.*

By J. M. WINFIELD, M. D.,

BROOKLYN.

I consider eczema to be a catarrhal inflammation of the skin. You will see that my views coincide with the teachings of Rindfleisch, Tilbury Fox, Robinson, and many others. The most accurate definition is given by Tilbury Fox in his work on cutaneous diseases, and, as I know of no better description, I think it would be well to give it *verbatim*. He says: "Eczema is an acute or chronic catarrhal inflammation of the skin, characterized by papulation, vesiculation, and pustulation, followed by an excoriated surface, discharging a peculiar sero-albuminous fluid, which has the property of stiffening linen and drying in a yellow crust. Recovery is followed in some cases by secondary inflammatory results, such as thickening or hypertrophy of the skin, and œdema." This to my mind is the best and truest description found in any work on the disease in question. You may have the papule, vesicle, and pustule all in the same case, or only one of the three forms in different locations. Hence the various misleading nomenclature, as, for instance, naming it after its site or characteristics—thus, eczema manus, because it is situated on the hand, or eczema vesiculosum, because it is characterized by vesicles. This is often cause for mistakes and doubts in diagnosis and treatment. If the principal diagnostic points are kept in view, all the misleading names in the older works on dermatology will not cause us to make a mistake. A few words regarding the pathology of eczema will be necessary before we can intelligently discuss the treatment. Remember it is a highly inflammatory disease, undergoing rapid changes during development. Remember, also, there are a number of varieties of the same disease, or, rather, different characters of the same disease. The acute form should be separated from the chronic, for in the former the inflammation is acute, and so calls for soothing treatment, while in the chronic form there is a passive inflammation, when stimulation is required. There is, in the first place, as in all other inflammations, hyperæmia of the skin; the blood-vessels and capillaries are overloaded with blood. This may take place uniformly, as in the erythematous form, or in spots or points, as in eczema papulosum. The important pathological process which occurs in the disease is an exudation, which may be either fluid or plastic, or of all grades between the two. In the papular or vesicular form of the disease the principal seat of the trouble is in the papillary layer of the skin; the papillæ are enlarged and infiltrated with cells and a serous fluid. The rete mucosum is altered over the affected papillæ, and the cells of the rete are crowded apart by spindle-shaped cells, which extend even to the epidermis. They form around the swollen epithelial cells a dense network, which serves for the osmotic changes seen by the exudation on the excoriated surfaces over the affected part. The development of a vesicle hastens the new cellular formation within the papillæ. The superficial cells of the mucous layer swell up perhaps even to bursting, so that the epidermis becomes raised. With this increase of cells there is at the same time a large quantity of fluid developed, often enough to raise the epidermis into bullæ. If the covering of the vesicle is removed, the fluid oozes forth upon the surface, forming the moist eczema. The exudation consists of serum and white blood-corpuscles. The multiplication of the leucocytes causes the vesicles to change into pustules. In the chronic form the inflammation is subacute, the changes taking place according to the stage of the disease. The papillæ are often so greatly enlarged that they are visible to the naked eye as red points on the denuded, exuding surface. The cell proliferation extends through the whole thickness of the skin—that is, through the corium and subcutaneous connective tissue. Pigmentation may take place in the deep layers of the rete and in the corium, and around the blood- and lymphatic vessels. The sebaceous glands and hair follicles become obliterated, the fat cells atrophied, and the sudoriparous gland and nerve fibers degenerated, their place being taken by increased connective tissue. Fox and Hebra are inclined to the view that an impaired innervation is an important element in producing the capillary congestion and cell proliferation. An explanation may be given by noting the disease following a disturbed circulation, as in varicose veins, or any other cause which interferes with the circulatory equilibrium.

The ætiology of eczema forms one of the darkest and yet one of the most hopeful chapters of practical medicine, for the elucidation of which the specialist requires all the help he can get from the experience of the general practitioner. To treat eczema intelligently, we must determine if it is a constitutional or local disease. In my opinion, there is in some a peculiar predisposition to eczema, for in many a slight chafing of the skin, or a menstrual disorder, will cause an outbreak of the disease. I think the best plan is to consider eczema an external manifestation of some internal disorder, as a dyspepsia, taken in its broadest sense, or gout, or rheumatism, which are well-known companions of eczema. In young children, as Bohn has rightly pointed out, a diet containing too much starch produces a fatty condition of the body, which is met with in a large number of eczematous children, and, with the removal of this condition and the combined sluggishness of the bowels, the eczema disappears—having, no doubt, been due to the habitual congestion of the skin and the indolent bowels. Eczema in fat children is exceedingly obstinate—this obstinacy being due to the slow circulation of the blood and lymph, resembling in this condition the circulation in the legs when varicose veins are present. In both cases a sluggish circulation and indolent bowels tend to aggravate matters. Among the local causes we have an excessive secretion of the sweat-glands, where the surfaces come in contact, as in the folds of the groin, the vulva, etc., causing the eczema intertrigo. Another local cause is an excessive secretion from adjacent mucous membranes, as, for example, eczema in infants from wet napkins, of the external ear from otorrhœa, and in the neighborhood of the eyes and nose in conjunctivitis and ozæna. On the subject of heredity authors are at variance, although the majority tend to the non-hereditary side of the question. Cases have been reported as having been transmitted from mother to child, etc., but I am inclined to think they must have been mere coincidences.

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* Read before the Medical Society of the County of Kings, April 19 1887.

The diagnosis of eczema is comparatively easy. If we except acne, it is the commonest of all the cutaneous diseases. It includes about one third of all cases of skin disease that come under treatment. It seems to be more frequent in this country than abroad, Hebra making it about 16 per cent. of all the cases treated at Vienna. Eczema is remarkably protean in its manifestations, showing itself under the most varied forms; at one time it appears as an erythema, and at another time it takes the vesicular form. Also remember it is the only weeping skin disease —not in the sense that an excoriated surface weeps, but as part of the pathological process of this disease, by an excessive exudation of liquor sanguinis, which can not be consumed in supplying loss, which remains over and infiltrates the cutaneous structure. The squamous or dry form is often mistaken for psoriasis, a squamous syphilide, etc. Seborrhœa also is often mistaken for eczema. It is true the two diseases often present the same or similar appearances as they occur on the scalp. They do often exist together, or one is the sequel of the other. Eczema of the scalp is, as a rule, seated on a circumscribed spot, while in seborrhœa the scales cover the whole scalp. In cases of doubt care should be taken to obtain the history, etc., and then a correct diagnosis can easily be made.

In considering the treatment, only an outline can be given. To enter upon the subject more fully would be to furnish subjects for an indefinite number of meetings. Eczema is a perfectly curable disease, provided the cause is sought for and remedied. In the acute form care should be taken not to over-treat. The great tendency is to administer arsenic, and apply a stimulating ointment, and then trust to Nature for the cure. If Nature had been left alone, or, better, aided by using some bland protective ointment, and a brisk cathartic internally, she would have brought about the cure much sooner than she would when stimulated almost to the point of irritation. We often find eczema accompanying digestive troubles. In these cases the diet should be plain and nutritious, and some tonic be used. I prefer tinctura nucis vomicæ, combined with some of the simple tonics, such as gentian or cinchona. Although in direct opposition to the teachings of the books, I have seen arsenic do a great deal of good in the eczema of dyspepsia. I think the best plan is to give small doses and very gradually increase—say, two minims of the liquor potassii arsenitis, increased to five, and then return to the original dose. Arsenic is a drug which has caused a great amount of discussion. While it is the dermatologist's sheet-anchor, it may be misused. It was pretty clearly brought out by the recent discussion, by both dermatologists and general practitioners, that arsenic was, in the majority of cases, a very successful and safe drug to employ, provided the physician took care to watch the effect, etc. The habit of prescribing arsenic in all cutaneous diseases can not be too strongly denounced, and I think the majority of text-books and lecturers are to blame for not teaching the student and doctor how to make distinctions between those cutaneous diseases which are benefited by arsenic and those which are not. In children which appear healthy, but are fat and flabby in texture, fed, as a rule, on food containing quantities of starch, and who are allowed to "drink all the tea and coffee they want," and other unwholesome food, I have seen eczema which had resisted all other treatment heal up almost by magic under a corrected diet, a brisk mercurial cathartic, and a bland protective ointment applied to the affected parts. The cure is explained by looking at the ætiology of eczema in this class of patients—namely, a congested skin produced by a sluggish circulation, or a torpid state of the bowels, which we relieve by curing the constipation and restoring tone to the circulation. After this introductory treatment, I give directions regarding food, and often give tonics—such as cod-liver oil and some form of iron, preferably the syrup. ferri iodidi. In young children, and persons having tender skin, care should be taken not to use an ointment too stimulating. I have a case in mind now where an ointment of the red oxide of mercury was used for a simple eczema, which caused a severe pustular eruption. When the ointment was changed for a simple protecting application, the eczema soon improved, and the child became well. I have seen several cases of eczema resulting from that much-advertised "skin success," which I believe is composed of the red oxide of mercury, some preparation of tar, and vaseline. For the removal of crusts in cases of eczema of the scalp, some oil should be used, either olive- or raw linseed-oil being the best. In scrofulous subjects you may use cod-liver oil with the hope of good results from the absorption. If there are pediculi along with the eczema, crude petroleum is useful for destroying the parasites.

A good application for local eczema in children is to apply the ointment in the form of a plaster. Unna, of Hamburg, uses an application called "Salbenmull," consisting of sheets of thin cotton material incorporated with various kinds of ointments; he also uses one somewhat similar, various medicaments being spread on gutta-percha tissue instead of cotton sheeting; the advantage of this over the former is that the gutta-percha plaster will adhere to the part without the use of a bandage. The most obstinate cases to treat are those of old, dry, rheumatoid eczemas found, as a rule, on the limbs of old people. My plan in these cases is to give plenty of salines, unless the heart is weak; if such is the case, caution should be observed, for by giving too much alkali we may produce a state of superalkalinism which may assist to a fatal result. A very good plan to observe in giving salines to old people is to combine them with digitalis. I also give tonics, such as iron, quinine, etc., and if there are symptoms of rheumatism, it is well to give, in addition, iodide of potassium and colchicum. Externally, I first remove the crusts or scales, which may be done with green soap, the liquor picis alkalinus of Bulkley, or hot poultices; my preference is for the poultice. The heat and moisture seem agreeable to the hot, tense skin, and the patient will express himself well pleased with the treatment. After all the crusts are removed and we have a clean shining surface, apply an ointment, stimulating or not, as the case would suggest. An ointment which I have found well adapted when stimulation was required is composed of the following:

℞ Hydrarg. chlorid. mit................ gr. xxv;
Olei cadini......................... ♏xx;
Unguent. zinci ox.................. ℥j.
M. Ft. unguent.

Oleate of mercury may be substituted for the calomel, about a drachm of the five-per-cent. to the ounce. One of the most distressing symptoms is the intense itching, which may be relieved by the addition of iodoform to this ointment, or, if the disagreeable odor of iodoform is objected to, iodol, a new preparation from iodine, may be substituted with equally good results. I have seen the compound tincture of benzoin, prepared and applied as recommended by Professor Sherwell, of the Long Island College Hospital, allay the itching when all other applications had failed. Dr. Sherwell's directions are to evaporate the tincture to three fourths its bulk, and paint this over the eczematous spot. I am not in favor of the heroic plan of treatment, such as blistering with cantharides, carbolic acid, or iodine. I think just as good results can be attained by employing milder stimulants, and if the desired effect is slower, you will be amply repaid by not causing your patient unnecessary pain and discomfort. When eczema is complicated with varicose veins, a rubber bandage applied closely to the part has a decided curative effect, due, no doubt, to the support given to the enlarged veins, restoring, or rather correcting, the circulation in that particular part. There are many other treatments recommended which are very useful under various conditions. There are two or three questions regarding which the physician must first of all satisfy himself. One is, What is the internal cause, if any? another question, Is the disease acute or chronic? and third, What stage is it in? When these questions have been answered, the proper method of procedure will at once become apparent. The German plan of treating the external manifestations of the disease alone has many things in its favor and some against it. It is very well in cases of doubt to direct attention to the visible lesion, and await developments for light on the internal trouble. The other extreme, which the French school teaches, of attributing the disease to the so-called diathetic cause, is open to as many objections. But the unfavorable features in either system have been very successfully remedied in the English, or more particularly the American, method of taking the safe middle ground of combination, and uniting both the internal and external plans, and so bringing about results which I think will be found to be far more brilliant than if only the method of either of the European schools is strictly adhered to. I trust that, with the ever-increasing facilities in the American medical schools for the successful study of skin diseases, the day is not far distant when the general practitioner will be able to diagnosticate and treat these troubles just as skillfully as the specialist; and eczema in its protean forms will become one of the least, as it is now the greatest, of all the cutaneous diseases.

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EPILEPSY:

ITS CLINICAL MANIFESTATIONS, PATHOLOGY, AND TREATMENT.

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In its typical manifestations epilepsy is characterized by phenomena indicative of disordered sensation, motion, and intelligence. These derangements succeed each other in the severe forms of the disease simultaneously and suddenly; in the milder cases in a certain rhythmical succession, where, as in the least grave variety, only one class of symptoms is represented.

It is customary to divide the phenomena of the disease, according to the nature of the paroxysm, into *epilepsia gravior* or *grand mal*, and *epilepsia mitior* or *petit mal*. Besides these principal divisions, which serve to denominate the more extreme and obvious forms of the disease, recent writers have recognized certain transitional and irregular varieties of the affection, which, in their turn, have received a classification, albeit more or less arbitrary.

In the following description we shall consider the phenomena of the paroxysm under these headings:

1. Grand mal, that variety of the affection in which the seizure is characterized by coma and general convulsions.
2. Petit mal, that form of the disease in which the paroxysm is alone characterized by loss of consciousness, the convulsive condition of the voluntary muscles being absent.
3. Epilepsy characterized by partial impairment of consciousness and circumscribed muscular spasms. This group constitutes a connecting link between the first two varieties of the disorder.
4. Irregular forms of the attack.

Symptomatology.—We may divide the symptoms of epilepsy into (1) such as precede the paroxysm, (2) such as occur during the paroxysm, and (3) such as are observable during the intervals of the attacks. In the following description we shall follow in many respects the admirable classification of the phenomena of the disease adopted by Nothnagel, a writer whose clear clinical insight is only equaled by his masterly experimental researches upon the pathology of this most interesting disorder.

Premonitory Symptoms.—These may be divided into such as give warning of an impending attack some hours or days before its occurrence, and such as immediately precede the seizure—the so-called *auræ epilepticæ.* The distant premonitions usually assume the form of mental disturbances in the form of irritability, loss of memory, confusion of ideas, and unusual depression or exaltation, vertigo, and head pains.

Symptoms which immediately precede the Attack: Auræ Epilepticæ.—The aura may affect the sensory, vaso-motor, secretory, motor, and psychical functions.

In a considerable proportion of cases the subject is able to give from memory an account of the aura which preceded the attack. Sometimes, however, consciousness is affected so suddenly that the patient retains but a shadowy recollection of the occurrences which immediately preceded the seizure.

The immediate prodromes occur more frequently and exhibit greater variety than the remote warnings; indeed they possess such multifarious characteristics that any attempt at exhaustive enumeration of the phenomena would necessarily prove both imperfect and unnecessary.

In the following description, therefore, we shall simply aim at giving a general account of the characteristics of these premonitory symptoms, trusting to the individual experience of the reader to amplify his acquaintance with this interesting class of manifestations.

The *sensory* aura consists in tickling sensations, or burning, lacerating pains, which usually begin at the extremity of a limb, in the toes and fingers, and extend upward toward the breast and head. Sometimes, on the contrary, a loss of sensation is experienced in circumscribed localities, such as a portion of a limb, or one side of the face. This diminution of sensibility may often be recognized by the aid of the æsthesiometer, or by thermic tests. Again, in a certain percentage of cases, the subject complains of isolated pains in the head, either at the vertex or upon one side of the cranium.

Vaso-motor disturbances manifest themselves by sudden redness or pallor of the affected localities. The circulatory disturbances are often preceded by sensations of burning, numbness, or by a chill, which, beginning in the fingers and toes, creep up the spine toward the head and shoulders.

Acting upon the observation that in certain cases the vaso-motor prodromes assume an unusual degree of prominence, recent authors have sought to distinguish a separate variety of the affection, the so-called *epilepsia vasomotoria.* There is evidently, however, but scant justification for such a classification, inasmuch as, if we recognize an epilepsia vasomotoria, we are equally compelled to distinguish a sensory or motor variety of the affection, according to whether the prodromes are characterized by a predominance of aberrations of sensibility or of motion. It is evidently more logical, therefore, to abstain from attempting to establish further subdivisions of the disease on the score of any mere peculiarity of the aura.

The vertigo and faintness often observed as a forerunner of the paroxysm are, doubtless, often attributable to disturbances of the vaso-motor conditions of the cerebral circulation, and not, as some authors maintain, to dilatation of the abdominal vessels.

The *secretory* aura manifests itself in an inordinate secretion of tears, perspiration, or saliva. Excessive flow of saliva is indeed often enough observed, whereas unusual activity of the lacrymal glands is more rarely met with. Nothnagel has frequently remarked profuse perspiration as an immediate precursor of the attack.

Auræ of the Special Senses.—The auræ of hearing consist of buzzing, roaring, barking, hissing, and ringing. Sometimes sepulchral voices are heard calling in a strange and unintelligible manner, or warning the subject of impending doom. At times also low, musical sounds are heard, which may be gay or melancholy in character. A patient of mine complained that immediately before the attack he heard the notes of a dirge, "and then all was darkness."

Where the auræ are visual, the phenomena consist in colors, flashes of light, and balls of fire. In some cases the subject finds himself surrounded by grotesque or awful shapes, which, with outstretched claws, leer at and mock him. In yet other instances he conceives himself to be in the midst of wild beasts, or hideous reptiles, prepared at any moment to devour him.

Auræ of the sense of smell are usually, though not always, of a disagreeable character. In some cases the patient declares that just previous to the attack he is overwhelmed by the odor of dead animals or cess-pools. Sometimes, however, pleasant odors, such as the perfumes of flowers, are described.

The auræ of taste are characterized by various forms of perversion. Sometimes the patient experiences a salty or metallic taste; at others a sensation of sweetness is noted, which causes him to smack his lips with pleasure.*

The *motor* aura exhibits itself in various ways. In a considerable percentage of cases, tonic, or more frequently clonic, spasms are observed affecting certain groups of muscles. Thus one side of the face is frequently affected by the spasmodic contractions, whereas in others the spasm begins in the hand and ascends to the face. Sometimes the muscles of the tongue are involved, the subject becoming suddenly speechless. In other cases, again, the muscles of the eyes are involved, giving rise to squint. These are the cases in which the subject complains of double vision.

Visceral Auræ.—These are exceedingly common and consist of sensations of heat, cold, rumbling, or straining which are usually referred to some organ contained within the abdominal cavity. The so-called epigastric aura is a sensation referred by the patient to the region of the stomach. The attack is also preceded in some cases by straining at stool and on urinating.

The *psychical* aura is of frequent occurrence, and may consist of an emotional disturbance manifesting itself in fear or disgust, or in perversion of the intellectual faculties assuming the form of confusion of ideas. It is often very difficult to classify this category of phenomena, for the reason that the description given by the patient is so imperfect as to admit of no certain conclusions. Thus, complaints are often made of a strange indescribable sensation of confusion or vacancy, to which the patient refers with evident difficulty. These cerebral phenomena should always be inquired after by the physician, as they constitute an interesting and frequent type of premonitory symptoms.

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* Frank, cited by Nothnagel, has recounted an instance of this sort.

The Manifestations of the Epileptic Paroxysm.

I. ***Epilepsia Gravior, or Grand Mal.***—It is customary among most writers to divide the epileptic attack into two or even three stages. During the first stage of the attack the patient lies in an unconscious condition, and his muscles are thrown into a state of *tonic* spasm. Unconsciousness persists during the second period of the paroxysm, and at the same time the tonic contractions are succeeded by *clonic* convulsions. The third period is characterized by cessation of the spasm and final restoration of consciousness.

It will be well to consider somewhat more in detail these various stages of the paroxysm.

First Stage.—As already noted, there is entire loss of consciousness during this period of the seizure. Sometimes the loss of volitional power is so sudden that the subject falls to the ground, as if stricken by some unseen power. At others, consciousness disappears less rapidly and the patient is enabled to sink upon a chair, lounge, or bed, thus avoiding the danger of falling against some object which might cause him serious injury. It has frequently happened, where the loss of consciousness has been sudden, that patients have fallen against the stove or into the fire, and have thus sustained frightful injuries. Owing to the profound coma, they feel not even the remotest sensation of pain, and are consequently unable to rescue themselves. When the patient has been under observation, great pallor of the face has been noted, which attains a maximum degree of intensity at the moment the subject sinks into unconsciousness. Some patients utter the so-called epileptic cry immediately before falling. This cry is of so strange and piercing a character that animals and men are frequently thrown into a state of consternation upon hearing it. The feelings aroused by this cry, when heard among the wards of an insane asylum, are certainly anything but agreeable, even to those long accustomed to the sound. During or after the fall the muscular system is thrown into a condition of tonic spasm. The distribution of the latter is subject to considerable variation. Sometimes there is opisthotonus; at others but one half of the body is involved and curvature takes place in a lateral direction. In severe cases the spasm is general, involving the entire muscular system. The muscles of mastication are violently contracted, causing the jaws to close with such violence as to break the teeth or produce severe laceration of the tongue, should the latter chance to be implicated. The most varied and hideous distortions are produced; the pupils are dilated and fail to react to light; the eyeballs are deviated and the head and neck are flexed in a backward direction, or rotated where the action of certain groups of muscles prevails over that of their antagonists. The muscles of both the upper and lower extremities are also involved. The forearm is flexed or extended; the thumb and fingers are bent into the palm; the lower extremities are violently extended and the foot is incurvated. The muscles of the throat and those concerned in respiration are also involved in the spasm, and breathing is arrested. Reflex action is impaired or absent in many cases. As already noted, the tonic contractions are not always so universal as the foregoing description would imply, and in some cases they are limited to certain groups of muscles only. Nor does the paroxysm always begin with tonic muscular contractions. Sometimes these are wholly wanting, clonic spasms setting in at once.

Second Stage.—As already noted, the prominent characteristics of this stage of the attack are the clonic spasms, which set in from two to forty-five seconds after the inception of unconsciousness. With the advent of the clonic convulsions a remarkable change takes place in the appearance of the patient. The pallid aspect of the face gives place to a dark, livid hue, while at the same time the veins are seen to be distended. If the radial pulse is examined at this time, it will be found to be feeble or quite imperceptible, though both carotids are seen to pulsate violently. The majority of the muscles of the head, trunk, and extremities are involved in the convulsive seizure. Owing to the preponderant action of certain groups of muscles over the corresponding antagonists, the most remarkable postures are produced. In a considerable number of cases, one side of the body is seen to be more affected than the other; and this is said to hold true even in those cases where the convulsions are general.* Sometimes the violence of the spasms is so great as to cause dislocations, fractures, and severe wounds of the head and extremities. The teeth are violently ground together, and the tongue, becoming implicated, is severely lacerated. In a large number of cases the patient is seen to froth at the mouth, and the saliva discharged is tinged with blood derived from wounds of the tongue and mucous membrane of the mouth. At the same time the contents of the seminal vesicles, rectum, and bladder may be evacuated, the contents of the latter being frequently ejected with great violence.

This stage of the attack usually lasts from two to four minutes; in some instances, however, the clonic spasms persist five or even ten minutes. The condition of the pupil is variable, being sometimes considerably dilated, at others contracted.

Third Stage.—Usually the cessation of the convulsions is accomplished gradually, but in exceptional cases the spasm ceases suddenly. The spasmodic contractions grow less and less and finally disappear, respiration is attended with less difficulty, the cyanotic appearance of the face is sensibly diminished, the limbs become relaxed, the pulse becomes stronger, and at length consciousness is more or less completely restored. Sometimes, however, the patient passes from a condition of semi-consciousness into a deep sleep, and does not awaken for hours.

Westphal † has arrived at the conclusion that an elevation of temperature after the attack is rare.

Williams ‡ found that the temperature might rise as much as 3° F. after severe convulsions.

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* Nothnagel.

† "Archiv für Psychiatrie und Nervenkrankheiten," vol. i.

‡ "Medical Times," 1867, vol. ii.

The accounts given by various authors as to changes in the composition of the urine are conflicting.*

After the paroxysm has subsided the subject usually suffers from great physical exhaustion, mental confusion, derangements of memory, and in rare instances from paresis, or hemi-paresis.

II. *Epilepsia Mitior* (*Petit Mal*).—This form of the disease is characterized by transitory loss of consciousness, unaccompanied by foaming at the mouth, pulsation of the carotids, marked cyanosis, or manifest spasmodic contractions of the voluntary muscles. Persons subject to attacks of *petit mal* suddenly relinquish the employment in which they may happen to be engaged, remain perfectly motionless for a few seconds, and then resume their former occupation. If engaged, for example, in speaking, such persons suddenly pause in the most unaccountable manner in the middle of a sentence; but, after an interval of a few seconds, conversation is again resumed. If walking upon the street, they suddenly stop, but do not usually fall, unless the period of unconsciousness should be unusually long. In some instances, however, automatic actions are not immediately interrupted, and the patient continues the occupation in which he may happen to be engaged. Thus, musicians have been known to continue playing during an attack of *petit mal* without the audience becoming in the slightest degree cognizant of anything unusual in their conduct.

In the majority of cases the auræ are entirely absent, or so slight in character as to escape the observation or recollection of the patient. The most common warnings consist in flashes of light, darkness before the eyes, and dizziness. Numerous sensations, already referred to as constituting auræ, may, it is true, occur in the entire absence of true epilepsy. But, when these symptoms occur with a certain periodicity, and are accompanied, moreover, by mental confusion, the suspicion of epilepsy is justified. The diagnosis becomes doubly sure if at such times an involuntary discharge of fæces and urine takes place.

In a large number of cases no evil after-effects are observed, and the patient is entirely oblivious of his previous condition. Sometimes, however, even where the attack has been slight, symptoms are observed which are apparently entirely out of proportion to the magnitude of the exciting cause. The patient becomes dull and sleepy, or suffers from headache, depression, or irritability. Memory is also more or less impaired, especially for recent occurrences. These symptoms often persist for several hours; but they do not constitute the entire list of mental accidents to which these apparently insignificant attacks of epilepsy may give rise. Thus, the terrible disorder known as epileptic mania is one of the most common results of these mild attacks of epilepsy. To this point we shall have occasion to refer hereafter.

III. *Epileptic Seizures characterized by Loss of Consciousness and Local Spasm; Transition Forms.*—This variety of epilepsy constitutes a veritable connecting link between the major and the minor forms of the affection. In its general characteristics there is a pronounced resemblance to *petit mal*, with the addition, however, of pronounced spasmodic phenomena. It rarely happens that tonic and clonic spasms set in simultaneously, or follow each other, as in *grand mal*. In the majority of cases, on the contrary, but one or the other form of spasm is found to exist. The location and extent of the spasmodic phenomena are subject to considerable variation, and to enumerate all the clinical possibilities would be next to impossible. Sometimes the tongue is rolled about from side to side, while the jaws are alternately opened and shut, as in chewing. In some patients, on the other hand, the attack manifests itself merely by spasm of the facial muscles, strabismus, or closure of the eyelids. Again, in a not inconsiderable number of cases there may be movements of the lips, violent contortions of the muscles of the face, local spasms in the extremities, or more rarely in the trunk, and (according to some writers) arrest of respiration, owing to spasm of the respiratory muscles. Where the spasm is located in the extremities there is rigidity of the same, or some of the fingers or toes are extended or bent, or, where the convulsions are clonic in character, the affected parts are moved backward and forward with a pendulum-like motion. Sometimes there are clonic and tonic spasms which are more general in character, and which at first sight would suggest the major form of epilepsy. But, as a matter of course, an absolutely sharp demarkation between the various forms is not always easily discernible, and it is consequently necessary to bear in mind the relative value of this or, indeed, any other classification.

It has been alleged by some writers that the loss of consciousness is by no means absolute in this form of the seizure. Nothnagel, on the other hand, is of the opinion that in the great majority of cases an arrest of consciousness takes place, which, although often only very transient, is still complete.

IV. *Irregular Forms of the Attack* (*Larvated, or Masked, Epilepsy*).—In this form of the disease the paroxysm is quite as well marked as in *grand mal*, the only difference being that, instead of the violent convulsive movements of the latter, certain "automatic" mental and motor phenomena are evolved, which, though often apparently systematized, take place while the subject is in a state of partial or entire unconsciousness.

The following case, which occurred in my own experience, is a good illustration of this phase of the disease:

A. V., a young unmarried woman, aged twenty-five years, was brought to my office about a year ago, suffering, as her friends imagined, from the premonitory symptoms of insanity. On inquiry, I learned that the family history on both the father's and mother's side was good so far as the existence of mental trouble was concerned, and the only neuropathic evidence discoverable was afforded by the girl herself, who complained of being "nervous" and "fidgety," and somewhat lacrymose and emotional at times. These attacks were, however, in no wise traceable to menstruation.

Upon examination, the organs of the thoracic and abdominal cavities were found to be in a healthy condition, and, having noted this fact in my case-book, I was about continuing my examination of the patient, when suddenly she arose and, without the slightest warning, spat upon the floor, at the same time letting her muff, which she held in her hand, fall upon the floor. For an instant after this she stood with an expression of indescribable horror, as if transfixed, her face meanwhile wearing a chalky appearance. In a moment, however, all was over, and she resumed her seat, as if nothing unusual had happened. The mother of the girl, who was present, began subsequently to reprimand the latter in the severest terms, at the same time observing, with an expression of exultation: "There, you crazy, nasty thing, the doctor has caught you now, and he will send you to an insane asylum." Upon close questioning, the patient denied in the most emphatic and convincing manner all knowledge of what had occurred, and I am thoroughly persuaded that she told the truth. From her mother I learned that she had formerly had many similar attacks, during some of which she had shown a tendency to destructiveness, breaking any object upon which she chanced to lay her hands. Several ornaments and pieces of furniture had been destroyed in this way, on account of which she had become very unpopular in her family, the members of which would gladly have seen her relegated to an asylum, as I soon ascertained.

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* *Vide* Ebstein, "Deutsches Archiv für klinische Medicin," vol. xi.

Sometimes the acts perpetrated by persons suffering from this masked type of epilepsy are far more complicated. I can recall a case illustrative of this complex mental automatism, occurring in the family of an intimate friend. The following are the principal points of interest connected with this case:

C. E., a neurotic lad of eighteen, of delicate frame, came under my observation some two years since. The principal reason for consulting me, as his father explained, was because the boy's "memory" seemed to be affected, and because of certain other mental traits which excited the apprehension of his parents and teachers. On questioning the father of the lad, I learned that the latter was in the habit of running away from school and from his home, remaining absent sometimes for days at a time. So annoying had these frequent occurrences become that the parents of the boy had finally been induced to attach a leather placard to his coat bearing his address as well as a request to the police to return him to his home when found. Indeed, he had been returned by the police on sundry occasions; but the most singular part of the transaction was the fact that he denied in the most obstinate manner all knowledge of his singular peregrinations—a statement which he resolutely maintained in the face of the severest chastisement. This was the more remarkable since his veracity upon all other topics was unquestioned. On examining the lad, I found his back, ankles, and thighs covered with scars, which upon inquiry I learned were the result of inhuman beatings received at the hands of his guardians, who considered him to be at once a truant and a liar. With tears in his eyes he declared, with the most convincing sincerity, that he had no recollection whatever of the occurrences for which he had been punished.

Such cases as this are far more common than is generally supposed, as doubtless most practitioners of large experience can testify.

(*To be continued.*)

Chalk Ointment as an Application in Erysipelas.—Sir Dyce Duckworth ("Practitioner," January, 1887) speaks highly of chalk ointment in erysipelatous affections. It seems to be quite immaterial whether the *creta præparata* or the *calcii carbonas præcipitatus* is employed. In severe cases it may be necessary to reapply the ointment twice or oftener every twenty-four hours.

Correspondence.

LETTER FROM LONDON.

The General Medical Council.—The Apothecaries' Society.—The Death of Dr. Wilson Fox.—The Hospitals and the Jubilee.

London, *May 17, 1887.*

The General Medical Council is again in session, the second time this year. One result of such frequent meetings will soon make itself felt, and that will be that there will be no funds left out of which the members can be paid, and that will have, there can be no doubt, a most salutary effect on the length of the discussions. The Council meets for four hours a day, and each sitting costs at the rate of twenty-two shillings a minute. The first business on this occasion was to receive the resignation of Sir Henry Acland as president, and elect his successor. Mr. John Marshall was chosen unanimously. The Council then had to consider what it was to do with the Apothecaries' Society. By the new Medical Act, which comes into operation almost immediately, no single qualification carries with it the right to be entered on the Medical Register, but it was provided that in the event of any corporation not being able to enter into combination with another corporation so as to make its license complete, it should be in the power of the General Medical Council to appoint additional examiners in that subject which the corporation could not give a legal qualification in respect of, and that, if the Council did not do so, the Privy Council might do it. The Apothecaries' Society, not having been able to gain admittance to the conjoint board of the Colleges of Physicians and Surgeons, therefore applied to the Council for official recognition of their examiners in surgery, and succeeded in obtaining it, though not without much opposition. It is greatly to their credit that some of the Scottish members of the Council were in the majority, for there could be no doubt that the suppression of the Apothecaries' Society would be a good thing for the Scottish corporations, which give their diplomas on much easier examinations and for smaller fees than the two colleges in London.

I fancy that in America you have nothing corresponding to the General Medical Council, and you are very well off without one. Its function is to enter the names of those qualified to practice on a register, which registration gives the right to sign death certificates and to sue for fees in the law courts. But these are purely theoretical privileges. The number of uncertified deaths every year shows how easy it is to do without such certificate, while a very recent case shows that the law affords no protection to registered practitioners in the attempt to collect their fees. In the case in question a medical man had charged five hundred guineas for his services during a long attendance, and the amount had been approved by two arbitrators as reasonable and just, but the doctor could not get his money, and when he brought an action he lost his suit with costs. If he had been an unlicensed practitioner he would probably have adopted effective means long ago to enforce his claims without troubling himself about legal formalities.

The death of Dr. Wilson Fox, the other day, though rather sudden, can have taken no one by surprise; never a strong man, his health since an attack of pneumonia about a year ago had always been rather precarious, and the existence of long-standing heart disease rendered him particularly unable to withstand any severe illness. He was very popular with all University College men, not only for his unfailing courtesy, in which respect he formed a striking contrast to another and greater teacher at the same school, but because they found that the more they followed his teachings the more they learned from him. By his death the office of Physician in Ordinary to the Queen became vacant, and Sir William Gull, one of the Physicians Extraordinary, has been promoted.

The hospitals are all trying to make capital out of the Jubilee, but so far with very varying success. Guy's Hospital, to which I referred in my last letter, is still making great efforts to obtain the £100,000 originally asked for, without which, it is said, some further beds must be given up; for several years now some of the wards have been closed. Mr. J. S. Morgan gave them the £10,000 he offered, although his conditions had not been fulfilled, and this has given a fresh impetus to the fund, which, however, is still a long way from the amount named. The Children's Hospital, in Great Ormond Street, is also making capital out of the Jubilee with some success. Owing to the strenuous representations of the medical staff, the managers a few months ago decided to try to complete the building so as to provide for the better accommodation of patients with whooping cough and diphtheria especially, as well as provide a few additional beds. The money is now being collected from the children throughout the country, and I believe the returns are thus far considered very satisfactory. There are few charities so well deserving of support as this one.

LETTER FROM BOSTON.

The One Hundred and Sixth Annual Meeting of the Massachusetts Medical Society.

Boston, *June 8, 1887.*

The meeting was held yesterday and to-day. There was, as usual, a display of surgical instruments, mechanical appliances, drugs, etc., in the Rogers Building, adjacent to the place of meeting, but it was not up to the average—perhaps because no proprietary article was allowed to be shown. The purveyors of proprietary articles held an exhibition of their own, at the Hotel Brunswick, across the street, and I am constrained to say that it was the better attended of the two. Why such preparations as the malt extracts, beef essences, etc., which are in general use and unquestionably important agencies in the hands of the profession, should be excluded, I am unable to understand. The customary visits were made to the hospitals, and those who attended were more than ordinarily repaid for their trouble.

It is unnecessary to enumerate the papers read at the meeting, as you have already published the programme. Dr. Burrell's paper, on the immediate reduction of fractures of the spine and their fixation with the plaster-of-Paris jacket, was of a very practical character, and was fully illustrated with diagrams and other drawings. The author dwelt at length on the necessity of support in such cases. Dr. Bullard's paper, on the relation of tea-drinking to disorders of the nervous system, which was largely an elaboration of clinical histories, attributed many of the hysterical, neuralgic, and neurasthenic symptoms of women to this cause, and divided the cases into the acute and the chronic. It was excessive tea-drinking only that was deprecated, the serviceable properties of tea being frankly admitted. Dr. Vickery's paper, on pulmonary tuberculosis as a sequel to ordinary pleurisy with effusion, contained reports of ten cases, six of which had occurred under the author's own observation, and the deduction was drawn that the connection was one of cause and effect. In the discussion, Dr. Bowditch gave it as his experience, extending over half a century, that phthisis did not result from pleurisy, the latter disease being one of which patients were cured. The tubercular disease, he said, ought not to be said to be due to the effusion unless the symptoms were continuous. Pleurisy was often followed by phthisis in tuberculous families, but it was then a constitutional disease.

It was a disappointment to many that Dr. Maurice H. Richardson's absence prevented the reading of his paper on the surgical treatment of chronic empyemas, as his experience in cases of that affection has been large. In Dr. Worcester's paper on training nurses, a point was made of the scarcity of trained nurses at present, the result of which was that only the wealthy could obtain their services. The facilities for multiplying them should be increased. Dr. Abbott's paper on the value of public-health measures to the State was a statistical and most convincing proof of the power of hygienic precautions to save life. It seemed probable, the author said, that typhoid fever would soon become unknown. In the discussion, Dr. Bowditch delivered a vigorous speech on the importance of physical training and the danger of over-stimulation of the mind in young persons. The State of Massachusetts, he said, occupied a ridiculous position in regard to these matters. Gymnastic exercises ought to be introduced into the schools.

At the meeting of the councillors, held Tuesday evening, officers for the ensuing year were chosen as follows: President, Dr. Thomas H. Gage, of Worcester; vice-president, Dr. John M. Harlow, of Woburn; treasurer, Dr. Frank W. Draper, of Boston; corresponding secretary, Dr. Charles W. Swan, of Boston; recording secretary, Dr. Francis W. Goss, of Roxbury; librarian, Dr. Edwin H. Brigham, of Boston; orator, Dr. B. Joy Jeffries, of Boston; anniversary chairman, Dr. Charles B. Porter, of Boston. The secretary's report showed that ninety-six new members had joined during the year, and twenty-six had died, making the total membership 1,661. The treasurer reported the balance on hand as $2,315.21.

Luminous Paint in Theatres.—Herr Stehle, the Government Inspector of the Royal Bavarian Court Theatre, has, says "Iron," given high testimony to the use of luminous paint as a safeguard against panic in theatres. In the above-named theatre inscriptions in luminous paint are suspended over the exit passages, which direct the audience to the "way out." These placards, we are told, in spite of being exposed to the very poor light of the corridors in the daytime and the gaslight in the evening, are so luminous after the gas has been turned out that any one can gain the stairs in each corridor without difficulty.—*British and Colonial Druggist.*

Hepatic Erysipelas.—The Paris correspondent of the "British Medical Journal" says: "In the 'France Médicale,' Dr. Louis Boucher recently described a case of hepatic erysipelas in a woman aged sixty-three. Eighteen years previously she had received a blow on the right side of the abdomen. Bilious fever, with severe jaundice, gastric disturbance, and obstinate constipation, ensued. The menopause occurred without any complications. In 1879 the patient was attacked with erysipelas, after violent hepatic pains, which lasted two days. On January 3, 1887, she was suddenly seized with fever and tremors and a recurrence of the hepatic pain. The temperature was 39·2° C. (102·4° F.), the pulse 120. The urine was deep red; the tongue white. She complained of intense pain in the region of the liver, which was hot, as if it were the seat of inflammation. No alteration of shape could be detected. An opium-poultice was applied, and a sedative given at night. The following day the patient was very restless; her sleep had been interrupted by nightmare and starts; the fever was worse. Ten centigrammes of extract of digitaline were ordered every hour. Toward night the pains in the liver disappeared, but the throat was dry, there were pains in the ear, and the face became swollen. On January 6th well-marked erysipelas showed itself, and spread from the lobe of the ear over the right side of the face; the temperature fell to 38° C. (100·4° F.). Recovery took place in a few days. . . ."

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THE QUESTION OF NATIONALITY IN SCIENTIFIC CRITICISM.

It has always rankled in the hearts of us Americans that the incredulity with which Ephraim McDowell's account of his success in the removal of cystic ovaries was received abroad rested not so much on any inherent improbability it might be supposed to involve as on the fact that it came "from the wilds of America." McDowell, it is true, has been amply vindicated, and the records of the work done by Nathan Smith and other early American ovariotomists constitute abundant testimony to the American nativity of the operation; yet the arrogant spirit betrayed in the "Medico-chirurgical Review," of London, in the year 1825, has never died out, but generation after generation of Pharisees is brought forth to harbor it. Such things however, usually right themselves in the course of time, and perhaps the process will in this instance not be retarded by a recent public statement by a disinterested person to the effect that the modern Cæsarean operation was first made known to the British profession by Dr. Lusk, of New York. The June number of the "American Journal of Obstetrics" contains a letter from Dr. Sänger, of Leipsic, in which he quotes as follows from a summary of Dr. Lusk's remarks before a British audience: "Cæsarean section always held out promise when performed under favorable circumstances. The weak side was always the gaping of the uterine wound. Porro's great method [merit?] consisted in doing away with this danger by the removal of the organs. But a still greater work was the reawakening of professional interest in the Cæsarean operation. The result was the wonderful success of Leopold and other Germans with the uterine suture of Sänger. This method, according to the latest reports, showed in twenty-six cases nineteen recoveries and seven deaths. In all the latter, the operation was performed under circumstances well-nigh hopeless. Cæsarean section modified by Sänger, Porro's operation, and that of Dr. Thomas were not rival, but supplementary, operations," etc. The writer adds: "The further discussion betrayed very plainly that Lusk's statements were as good as unknown."

We do not bring up Sänger's criticism for the purpose of exulting over our British brethren, but only to show that the importation of national feeling into the discussion of matters on which it has no bearing is likely in the long run to encounter a sharp antidote. Nor would it be fair to imply on the strength of this detached passage in Sänger's letter that the British profession was at the time wholly unaware of what had been going on in Germany in the matter of the Cæsarean operation, for he himself distinctly states that Simpson and Angus Macdonald had repeatedly called attention to it in the "Edinburgh Medical Journal." We must add also that it is not under the influence of national feeling that Sänger writes; his allusion to this matter is purely incidental to a dispute between him and Dr. Garrigues, of New York, on a subject that we have no present occasion to consider. To interpret it to the disparagement of British medicine would be quite as ungenerous and quite as foreign to the legitimate tenor of scientific writing as it was for Billroth to garnish his recent criticism of the Pasteur treatment of rabies with the remark that for the last twenty years the French had not only not made any great progress in the domain of scientific medicine and surgery, but had hobbled painfully in the path of the colossal advance of German and English science. Such a fling is unjust and unworthy of Billroth. There are periods when mental activity and achievement give prominence to a particular race, but no race towers so far or so continuously above others as to be warranted in assuming for itself any enduring leadership. The attempt to do so is as groundless as the fabled contention between the belly and the members. In the domain of science, no man's statements should be weighed with any reference to his nationality.

MINOR PARAGRAPHS.

THE CURE OF WHOOPING-COUGH BY MAGIC.

The "British and Colonial Druggist" relates that a curious display of superstition was lately witnessed at Maryhill, where measles and whooping-cough were prevalent. A traveling candyman and rag-gatherer's cart, drawn by an ass, was standing before a row of houses a little off the highway. Two women, each the mother of a child suffering with whooping-cough, took up a position one on each side of the ass. One woman then took one of the children, and passed it under the ass's belly to the other woman, the child being held with its face toward the ground. The second woman caught the child, and, giving it a gentle somersault, handed it back to the first woman over the ass, holding its face toward the sky. Each child was so treated three times, after which the ass was allowed to eat something from the child's lap. Subsequent inquiries showed that the mothers, whose number had been increased by two others during the ceremony, were thoroughly satisfied that their children were the better for the enchantment.

PUMPKIN-SEEDS AND A SUIT FOR DAMAGES.

The "American Journal of Pharmacy" gives an account of an action brought by a woman against a Philadelphia apothecary, based upon the allegation that her health had been impaired by taking ground pumpkin-seeds that he had sold her, at the same time telling her how to make an emulsion of the coarse powder, she having objected to the price of the ready-made emulsion, for which she had what purported to be a prescription, although it did not indicate the quantity, and was not signed. Before bringing the suit she demanded money of the apothecary, and, being refused, threatened to sue him, publish the facts, and ruin his business. It appeared in evidence that, having been directed to take half the amount, and the rest a few days afterward if necessary, she took the whole at once, and was taken with severe pains, for which she dosed herself with castor-oil and oil of turpentine; that a physician who was then called in found her suffering with fæcal impaction, and observed a considerable quantity of pumpkin-seed *débris* in the evacuations; and that she was still suffering from the after-effects of the impaction. For the defence, it was shown that pumpkin-seeds were sold unbroken, ground, or in the form of emulsion; that the seeds ground with the integument were recommended by certain physicians as superior to a fine powder; and that the woman, who admitted having had a tapeworm for several years, had now got rid of the parasite. The jury very properly returned a verdict for the defendant.

THE COMPARATIVE FREQUENCY OF CONFINEMENT BY DAY AND BY NIGHT.

THE "Journal des sciences médicales de Lille" has lately published the results of observations tending to show the correctness of the popular belief that more births take place at night than during the day. The observations related to a thousand cases of natural labor in a maternity hospital, and it appears from them (as summarized in "Lyon médical") that 450 took place between 8 A. M. and 8 P. M., and 550 during the other twelve hours. More particularly, there were 239 between 6 A. M. and 12 M., 220 between 12 M. and 6 P. M., 272 between 6 P. M. and 12 P. M., and 269 between 12 P. M. and 6 A. M. The account does not specify whether it was the onset of labor that was noted or its completion, but perhaps the latter may be inferred from the expression "*accouchements pratiqués*."

A NICE MEDICO-LEGAL POINT.

THE "Deutsche Medizinal-Zeitung" summarizes from the "Münchener medicinische Wochenschrift" an account of the trial of a physician accused of homicide by negligence, in which the counsel for the prisoner set up the plea that his client had caused the death not of an independent human being—a *homo*—but of a fœtus. The case was one of parturition, in which the child presented transversely with an arm prolapsed. To facilitate the performance of version, the doctor cut off this arm and then the other one, and finally tore away the lower jaw, but, after all, had to call in another practitioner to extract the head. The medical testimony was unanimous, and its purport was that the mutilations mentioned killed the child, and that they were unnecessary. The counsel for the accused maintained that a child was not an independent being until the umbilical cord had been cut, but still a part of the maternal organism; consequently, that it was only a case of mutilation of the mother. The prosecuting officer contended, however, that, according to the law, a child was an independent being so soon as any part of it was visible outside the vagina. The court adopted the latter view, and sentenced the prisoner accordingly. An appeal was taken, but unsuccessfully.

ANTISEPTICS FOR THE PRESERVATION OF THE TEETH.

AT the recent meeting of the Section in Surgery of the Second Congress of Russian Physicians, at Moscow, an abstract of the proceedings of which is given in the "Centralblatt für Chirurgie," Dr. Znamensky, of Moscow, read a paper on "The Limitation of the Indications for the Extraction of Teeth," in which he maintained that, by the use of antiseptics, certain affections of the teeth heretofore considered as calling for extraction—such as general purulent destruction and gangrene of the pulp—could be treated successfully. Carbolic acid and trichlorphenyl could be employed pure, chloride of zinc in a fifty-per-cent. solution, or corrosive sublimate in a five-, ten-, or twenty-per-cent. solution. It was insisted on as of prime importance that the second molar teeth of the first dentition should, whenever it was possible, be preserved until the appearance of the first permanent molars.

"MENTEVISM."

ACCORDING to the "Progrès médical," this is the term applied to mind-reading by a Russian named Feldman, who has recently been giving exhibitions of his powers in Paris. If his hand is grasped violently by anybody, he is able to detect the individual's thoughts in a few minutes. His special exploit seems to be that of finding cards that have been secreted. When the search begins, a bystander grasps his hand firmly, and thinks intently of the spot where the cards are placed. Feldman soon appears to become the subject of an irresistible force, and marches his assistant about, jostling the spectators, until they reach the person who has the cards. There is nothing novel in the essential part of the performance, and it is said that the experiment often fails.

ANÆSTHESIA BY VIBRATION.

IN the June number of the "Independent Practitioner," Dr. F. H. Brimmer, of Minneapolis, gives an interesting account of a dental operation in which he practically anæsthetized the pulp of a sound tooth by holding a rapidly revolving spear-shaped drill in contact with it for fifteen or twenty seconds, so lightly as only to transmit the vibrations. The drill was then pressed against the tooth with a little more force, and, the sensibility being found diminished, was allowed to penetrate perhaps a third of the distance to the pulp, when it was used again as at first. At the third trial the drill entered the pulp. Crystals of carbolic acid were then forced to the end of the root with a probe, and in twenty-three minutes the tooth was cut off and properly shaped for a crown, which was set on the following day. Dr. Brimmer remarks that the mitigation of sensibility by means of the dental engine is not a new idea. He thinks that the reason that its employment is not more commonly successful is that the operator allows the instrument to make progress at the same time. The theory is that there is a limit to nervous conductivity, and that the conduction of the vibrations exhausts it for the time being.

THE PRESERVATION OF UTERINE TENTS IN AN ASEPTIC CONDITION.

DR. F. FRAIPONT, writing in the "Gazette de gynécologie," calls attention to the well-known dangers from septic infection following the use of tents of sponge, laminaria, or tupelo, and to the unreliability of the so-called aseptic tents of commerce. On account of the many ways in which they may become contaminated, he says, nothing will answer but the plan of keeping them in an antiseptic liquid until the moment they are to be used. After alluding to Dirner's device of keeping them in a one-per-cent. solution of corrosive sublimate in absolute alcohol, and Porak's of preserving them in ether, he states that he himself keeps them in a ten-per-cent. ethereal solution of iodoform. Neither of the liquids mentioned materially interferes with the prompt expansion of the tent after its introduction.

THE "MEDICAL STANDARD," OF CHICAGO.

THIS new journal, of which we lately spoke in commendation, issued a daily edition during the recent meeting of the American Medical Association. In spite of the hasty work necessary for their production, the daily numbers of the "Standard" were exceedingly creditable in appearance, and they contained short comments on the affairs of the association that were at the same time judicious, dignified, and readable. One of the issues contained woodcuts of several well-known medical men, in which the likeness was remarkably close. In particular, the portrait of the elder Dr. Byford was not only most true to life, but really an artistic picture.

DR. PAWLIK AND HIS CLINIC.

Dr. George Halket lately gave a sketch of the obstetrical and gynæcological clinics of Vienna and Berlin, at a meeting of the Glasgow Obstetrical and Gynæcological Society, which is published in the June number of the "Glasgow Medical Journal." He says that the most enjoyable and perhaps the most instructive course that he took was with Pawlik, in company with two other Glasgow men and an American. He speaks of Pawlik as an exceedingly handsome man, about forty-five years of age, who speaks English as fluently as any Englishman, and is very popular with his patients, to whom his manner is not only affable, but bordering on the affectionate. He met the four pupils three times a week, usually for three hours at a time. Patients were plentiful, the examinations were made in a thorough and leisurely manner, and the treatment was carried out under Pawlik's supervision with the utmost attention to detail. The writer adds that he believes that all the women who came to the clinic were "*bona fide* patients," but that he can not say the same of another clinic (Schlesinger's), where "the same women returned week after week, simply for the purpose of examination, nothing whatever in many cases being done in the way of treatment."

AN ANATOMICAL BASIS FOR CONSTITUTIONAL PECULIARITIES.

The "Glasgow Medical Journal" speaks of a work by the late Professor Beneke, of Marburg, on "The Constitution and Constitutional Diseases of Mankind," published in 1881, giving an account of a long series of most accurate and careful anthropometric observations that go far to show that the groundwork of what is known as the constitution of an individual lies in the relative sizes of the different organs, and that the capacity of the organism for work depends partly on this volumetric relationship and partly on the nutrient material supplied to the body.

FULMINANT PURPURA.

Last December, in a communication to the Berlin Medical Society, Professor Henoch reported several cases of *purpura fulminans*, meaning by that term a special form of purpura pursuing an excessively rapid course and always ending fatally. Cases were also reported by Michaelis, Baginsky, and Senator. It appears by an account given in the "Münchener medicinische Wochenschrift," an abstract of which appears in the "Revue mensuelle des maladies de l'enfance," that the fulminant form of purpura usually follows an attack of one of the acute infectious diseases.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 14, 1887:

DISEASES.	Week ending June 7.		Week ending June 14.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	8	2	9	4
Scarlet fever	66	12	55	13
Cerebro-spinal meningitis	6	5	10	10
Measles	58	3	31	3
Diphtheria	122	50	91	37
Small-pox	11	4	6	2

The Rhode Island Medical Society held its seventy-sixth annual meeting in Providence on Thursday, the 9th inst. The Fiske Fund prize of $200 was awarded to Dr. James B. Field, of Lowell, Mass., for the best essay on "Membranous Enteritis." The subjects for next year's competition were announced to be: 1. "What Changes has the Acceptance of the Germ Theory made in Measures for the Prevention and Treatment of Consumption?" 2. "Antisepsis in Medicine and Surgery." Officers for the ensuing year were elected as follows: President, Dr. Horace G. Miller; vice-presidents, Dr. Albert Potter and Dr. John W. Mitchell; secretary, Dr. William R. White; corresponding secretary, Dr. George D. Hersey; treasurer, Dr. Charles H. Leonard. The annual address, on "The Bacteriology of the Eye," was delivered by the president, Dr. Miller. After the adjournment there was a banquet, at which brief remarks were made by visitors from other States.

The German Hospital.—Dr. A. Caillé and Dr. William Balser have been appointed visiting physicians to the hospital.

An Honor to an American Physician.—The Emperor of Japan has conferred the Decoration of the fourth class of the Order of the Rising Sun upon Dr. J. C. Cutter, of Warren, Mass., formerly house surgeon at the Boston City Hospital, in recognition of his services as professor of physiology and comparative anatomy in the College of Agriculture at Sapporo, Yezo, Japan. The order consists of eight classes, and Dr. Cutter is said to be the second American upon whom the order of the fourth class has been conferred. With but a single exception, no order above the fourth has ever been conferred upon an American.

Honorary Degrees.—At the ninety-second annual commencement of the University of North Carolina, held recently, the honorary degree of LL. D. was conferred on Dr. Hunter McGuire, of Richmond, and Dr. Morris H. Henry, of New York.

The University of Berlin.—The "Lancet" states that Professor Senator has succeeded Professor Henoch in the charge of the clinic for children's diseases.

Changes of Address.—Dr. Francis M. Weld will be at the Ocean House, Watch Hill, R. I., from July 1st to September 15th, after which date he will take up his residence permanently in Storey Place, Jamaica Plain, Boston. Dr. Edmund C. Wendt will be at "The Argyle," Babylon, L. I., after July 4th.

Society Meetings for the Coming Week:

Monday, *June 20th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *June 21st:* New York Academy of Medicine (Section in Theory and Practice of Medicine); Medical Society of the County of Kings, N. Y.; Ogdensburg, N. Y., Medical Association.

Wednesday, *June 22d:* New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Philadelphia County Medical Society (conversational).

Thursday, *June 23d:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Pathological Society of Philadelphia.

Friday, *June 24th:* New York Society of German Physicians; Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *June 25th:* New York Medical and Surgical Society (private).

Proceedings of Societies.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of June 2, 1887.

The President, Dr. Thomas M. Drysdale, in the Chair;
Dr. W. H. H. Githens, Secretary.

Ovariotomy, followed in Four Days by Kelotomy; the Comparative Safety of Different Anæsthetics.—Dr. John C. Da Costa related the history of the case of an unmarried woman, fifty-one years old, who had first come to him about a year before with an ovarian cystoma. As she was very much broken down in her general health, being highly malarious, anæmic, and affected with cardiac weakness, with an intermittent pulse, chronic albuminuria, degeneration of the blood-vessels, and double femoral hernia, he declined to operate at that time, thinking that she could not bear up under the shock of an operation, but tapped her, and put her under general treatment. On her return, in January last, he again declined to operate, as there had been so little improvement in her general condition. In April, however, she returned much improved from a stay at Wilmington, where she had taken a course of steam-baths and electricity. But she soon began to break down again, and on the 20th of April the speaker removed the tumor at the Jefferson College Hospital. Toward the close of the operation, profuse hæmorrhage took place from rupture of a large degenerated artery that had been tied, making it necessary to compress the aorta, enlarge the abdominal incision, and apply a second and then a third ligature, and sever the pedicle with Paquelin's cautery. The patient seemed nearly dead, and hypodermic injections of atropine and whisky were given. Vomiting continued for three days, and the herniæ came down several times and were replaced; but on the evening of the 23d it was found that the left one could not be reduced. In consultation with Dr. O. H. Allis, it was agreed that the patient was not then in a fit state to be operated on. The next afternoon she was apparently dying; the heart had almost given out, vomiting was constant, and the left hernia was strangulated. Whisky and morphine were given hypodermically, and Dr. Allis operated for the speaker, cocaine being the only anæsthetic used. The vomiting stopped at once, and the patient began to improve, and went on to recovery.

Among the points to which the speaker called attention was the value of cocaine in albuminuria. The patient was put on its use immediately after the ovariotomy, and the urine, which on the second day had fallen to seventeen ounces, went up the next day to thirty-seven ounces, and after the kelotomy to forty-nine ounces. Either ether or chloroform would have killed the patient.

Dr. Longaker remarked that recent observations had demonstrated the fact that ether was a dangerous anæsthetic under such circumstances as those described by Dr. Da Costa, and in such cases chloroform was considered by some much safer. Dr. Fordyce Barker considered chloroform much safer than ether during parturition, or if there was heart disease.

Dr. M. Price asserted that there was no danger in ether. Accidents happened because the administration was intrusted to any one who might be present, even the nurse. It should in all cases be given by one who understood its effects and who would give it his entire attention. It should never be given to saturation; even a prolonged operation required but a few ounces, and there was never occasion for the use of a pound or more, as was sometimes seen. He had no fear of ether in heart disease or any other condition, even of extreme weakness; he considered the danger from the shock of an operation much greater than that from ether.

The President had employed ether from the time of its introduction, and had never seen any bad effect from it even in cases of puerperal convulsions, where the kidneys had been affected. If ether was properly administered, a few ounces only were required to produce an anæsthetic effect.

Dr. Baldy had given ether to patients suffering from weak heart and kidney troubles, and had never seen any bad effects. The diuretic effect of cocaine had been announced by Dr. Charles Penrose.

Dr. Charles Penrose stated that experiments upon the effect of cocaine used internally, made by him under the direction of Dr. Da Costa at the Pennsylvania Hospital, had been described in the "Medical News" eighteen months ago.

Dr. Parish remarked that ether was certainly not safe under all circumstances, and it was decidedly unsafe in patients suffering from diseased kidneys or weak heart, or who were in a septicæmic condition. The greatest danger was not during the time of its administration, and the observation of the patient must not cease with the rally from its effects. The harm done would be noticed subsequently. He had seen much injury result from its use after labor for the purpose of curetting the uterus to remove shreds of placenta or membrane causing septicæmia. If cocaine would assist the action of the kidneys and would answer the anæsthetic needs, it should be preferred to ether for all patients suffering from kidney disease or a weak heart.

Dr. Longaker remarked that Dr. Emmet had been the first to call attention to this undesirable after-effect of ether.

Dr. Da Costa remarked that common sense was the basis of medical and surgical practice. He would not attempt an ovariotomy without ether. His patient had weak lungs and heart, an intermittent pulse, and albuminuria, and he gave her ether. Would Dr. Longaker give chloroform with such a heart? Ether was much safer as regarded the heart. As to the kidneys, chloroform would be better, but the risk from ether was the smaller. He had seen ether given to a patient who had suffered a year previously from an acute attack of nephritis, and the result was death a few days subsequently. The best man among the assistants should always be the one selected to attend to the ether. Dr. Orville Horwitz gave it in this case, and the speaker knew of no better administrator. The time of the operation was eleven minutes, between three and four ounces of ether were used, and the woman was perfectly under its influence all the time. In the second operation, with the exception of the puncture of the hypodermic needle, there was no pain. The solution of cocaine was applied by means of a brush to the cut surfaces as soon as they were incised. He did not consider ovariotomy and labor similar as regarded the choice of an anæsthetic; even if the kidneys were affected before or during labor, they recovered rapidly after the labor was over.

Pyo-salpinx.—Dr. M. Price reported a case of pyo-salpinx in which he had removed both ovaries and one tube, the other tube having been left on account of close adhesion to the intestine.

Dr. Parish, founding his remark on Tait's experience, said that it was not safe to leave a sound tube if the other one was removed on account of purulent disease, as the one that was left was almost certain to become diseased subsequently and to require a second operation.

Dr. H. H. Kelly also agreed that if one tube required removal for pyo-salpinx the other should not be left, because the nidus of the disease remained in the uterine mucous membrane, and it would travel up the other tube if it was allowed to remain. The same rule applied to ovarian pain. If one ovary was the seat of severe pain so as to require removal on that account, and the other ovary was allowed to remain, the pain would be transferred to it. There were exceptions to these rules. When an ovary was removed on account of cystic disease, the sound ovary should be left.

Dr. Baldy agreed with the previous speakers. Tait had reported twenty-six cases of unilateral operations for pyo salpinx, and in eight of these patients he had operated a second time, and the remainder required operation. He did not agree with Dr. M. Price in considering all cases of pyo-salpinx as of gonorrhœal origin. Martin had found 70 per cent. to be of puerperal origin. Microscopic examination of the contents would show the characteristic micrococci.

Dr. Hirst remarked that Martin had found micro-organisms peculiar to puerperal sepsis alone in some cases, while others were purely of tubercular origin, and the coccus of actinomycosis also had been found to be a cause of pyo-salpingitis.

Dr. Longaker called attention to the fact that the prognosis of these cases was not always gloomy without an operation. The inflammation might subside and a perfect cure follow, so that the patient might become pregnant. Only 25 per cent. required operation on account of the severity of their symptoms, and it should be borne in mind that the operation did not always cure them.

Dr. M. Price had always operated in purulent cases, and all his patients were either absolutely well or were still under observation. In one case of abscess of the ovary, in which he had operated eighteen months ago, the sound tube was left.

Dr. Parish remarked that but a very small minority of the women who contracted gonorrhœa ever had salpingitis. What was the determining cause? He had seen cases of gonorrhœa that were greatly aggravated by treatment at the menstrual period.

Dr. O'Hara inquired if the majority of operations were on prostitutes or on married women.

Dr. M. Price remarked that, according to his experience, 75 per cent. of all men had gonorrhœa, but they did not all have epididymitis. The proportion of cases of salpingitis to those of gonorrhœa in women was about the same as that of epididymitis to that of gonorrhœa in men. He had operated for salpingitis on both married women and prostitutes.

Further specimens were shown by Dr. J. Price, Dr. H. A. Kelly, and Dr. M. Price.

NEW YORK CLINICAL SOCIETY.

Meeting of April 22, 1887.

The President, Dr. Robert Abbe, in the Chair.

Crossed Paralysis.—Dr. Walter Mendelson presented a child fifteen months old that he had first seen about three months before. The mother was healthy, and there was no history of syphilis; the father's history, obtained through the mother, was somewhat doubtful regarding syphilis, but for the past two years he had been addicted to drink. The child was perfectly healthy at its birth and remained so for six months, when it had double purulent ophthalmia. Last July the mother noticed that there was loss of power over the right side, which seemed to have appeared rather suddenly. This continued without much change until December, when it was noticed that the left eye was turned in. A little later or at about the same time—the mother was not sure which—it was seen that the child smiled only with the right side of the face. It also ceased to say "Mamma," etc., and became dull and languid, in which condition it had since remained. The mother thought the child was deaf, although not wholly so, as it showed an intelligent perception of sounds. When the child was first seen she was quiet and rather dull during the day, but was said to take some notice of other children. At night she cried and was fretful. Her appetite was poor and there had been great constipation, for which the mother had given her castor-oil. Examination showed a dull and apathetic expression of countenance, heightened, no doubt, by the existence of facial paralysis. It was almost impossible to rouse the child's attention, either by sudden noises or by presenting objects to its view, although at times it tried to follow the latter with its head. The left eye was turned in, so that the pupil lay in the internal canthus. There was purulent conjunctivitis, which disappeared under treatment. About a week before the meeting a phlyctenular keratitis appeared, with renewed conjunctivitis, which also was getting better. In the beginning there had been a red papular eruption on the left cheek, which had largely disappeared. The conjunctivitis and keratitis were doubtless traumatic in origin, being secondary to left-sided facial paralysis and anæsthesia. The paralysis of the face seemed nearly complete, the mouth being drawn to the right side and the left eye remaining open. The anæsthesia was not complete; the branches of the left trigeminal nerve supplying the forehead and the side of the head were most involved, as in those regions there was no reaction to the prick of a pin, but below a line drawn through the eye sensation was impaired but not lost. The right leg and arm were paralyzed. The child's general nutrition was so poor that it was not easy to say whether there was much atrophy or not. There was also impaired sensation on the right side of the body, and the knee-kick on that side was exaggerated. The faradaic contractility of the muscles of the right side of the body and of the left side of the face was much less pronounced than in the opposite regions; there was not much difference in the galvanic reaction. The eyes had not been examined with the ophthalmoscope. Inunctions of mercurial ointment were used, also iodide of potassium by the mouth and cod-liver oil both by the mouth and by inunction. While the general health had improved somewhat, there had been no change in the paralysis.

The speaker remarked that there were two questions to be answered: 1. As to the nature of the lesion. 2. As to its site. As to its nature, he thought it might be syphilitic, and the improvement under anti-syphilitic treatment favored this view. Tuberculosis might well be excluded. Hæmorrhage in infants usually followed an injury, and there was no such history in this case. The lesion was either multiple, involving the nuclei of the trigeminal, abducens, facial, and acoustic nerves and the anterior pyramids, or it was a single large one spreading over an area including these several nuclei in the medulla and the anterior pyramids.

Dr. M. A. Starr said it was the first case of crossed paralysis that he had seen in a patient under fourteen years of age. He thought the lesion was undoubtedly syphilitic, and that it was progressive, extending along the outer side of the pons Varolii. The fact that the child had had no paralysis of the right side of the face would exclude a lesion nearer the median line. He would therefore locate the lesion in the meninges, and he did not think it necessary to suppose that there were two or more lesions. He thought the prognosis good as regarded partial recovery: the progress of the lesion would be arrested, and there might be regeneration of the nerves, but a thickening of the meninges would remain, resulting in what was known as the epileptic state. It had been stated that the prognosis was worse in congenital brain syphilis than in that of adults. In reference to the dose of potassium in children, Dr. J. Lewis Smith had recently stated, at a meeting of the Neurological Society, that he considered three grains enough for a child a year old.

Dr. V. P. Gibney stated that he had given as much as fifteen grains in a day.

Dr. L. B. Bangs gave children as much iodide of potassium as they could bear, but it was quite a different matter with mercury, which required close watching.

Dr. A. A. Smith thought that iodide of potassium given in very large doses was not all absorbed. He had once had under observation a patient who was given 1,100 grains daily, but it was found that most of it passed off by the bowels.

Cardiac Aneurysm (?).—Dr. Smith showed a man, forty-two years old, who had been admitted into Bellevue Hospital on the 3d of January. He was moderately addicted to drink and tobacco, but had always had good health, and his family history was good. He said that about two years before, he was attacked suddenly with pain in the region of the heart. A dose of morphine overcame this pain, and it never returned. A week before his admission he noticed a pulsating lump in his chest, to the left of the sternum. He had had a chancre about twenty years before, and had also had gonorrhœa and urethral stricture. There was absolutely no symptom except the pulsation. The speaker presented the patient for diagnosis. On three occasions he had tried to aspirate the swelling, but had failed to get any fluid; Dr. Janeway also had made two attempts, with the same result.

The patient having been examined by those present, Dr. H. C. Coe said that he thought the tumor was an aneurysm of the auricle.

Dr. H. M. Biggs thought it was either an aneurysm of the left auricle or one of the ascending arch of the aorta just above the site of the valves. Aneurysms within the pericardium were unattended with pain. In two or three autopsies he had found aneurysm of the auricle in cases where there had been no symptoms of aneurysm during life.

The President recalled a case exactly similar, except that the tumor had been situated on the right side. He and others had pronounced the case one of aneurysm, but the man had continued to perform the duties of an active occupation, and the tumor had undergone some reduction in size under the use of iodide of potassium.

Dr. Smith thought the aneurysm could not be within the pericardium, for such aneurysms grew toward the right, and, for want of space, ruptured early.

The Clinical versus the Microscopical Evidences of Malignant Disease.—Dr. Coe read a paper with this title. [See page 679.]

Dr. Kelsey mentioned a case of tumor of the anterior wall of the rectum, which had grown rapidly during a period of two weeks that it was under his observation, and had all the appearances of malignancy. After its removal, it was found on microscopical examination to be a simple fibroid growth. He was decidedly of the opinion that there were growths that were malignant clinically, but appeared benign to the microscopist.

Enlargement of the Prostate.—The President showed several enlarged prostates from old men, and gave brief histories of the cases. He also showed a Phillips's catheter, an instrument with which he had been very successful in cases of retention, but which he thought was not well known in New York.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of April 19, 1887.

The President, Dr. William Wallace, in the Chair;
Dr. C. E. De la Vergne, Secretary.

Eczemas and their Treatments.—A paper on this subject was read by Dr. J. M. Winfield. [See page 683.]

Dr. S. Sherwell said that it was not necessary for him to say a great deal, for the reader had covered a fair amount of ground; it was, however, a subject upon which much might be said. A good many books had been written about it, and many more books, or at least articles, would be devoted to it. There were several things in the paper which had pleased him very much, and which he thought would be subscribed to by those who had made this disease a particular study. A point that was particularly emphasized was that eczema was essentially a catarrhal inflammation. He did not think enough stress had been laid upon that by any one except Tilbury Fox. The mucous membrane and the skin were, if not identical, analogous in character, and what would cause a catarrhal affection in one might cause a catarrhal affection in the other. It was well maintained that the diseases were essentially the same. As to the reasons for these troubles he had been glad to hear what the reader had said, because he thought eczema largely depended on diathetic causes. We certainly believed some persons were more sensitive to irritation and its perpetuation than others. In some who were chafed by riding or other means, the irritation would go away quickly. In others, an eczema, and a persistent one, would follow. The general condition of the system had much to do with the cause and the prolongation. The treatment suggested in the paper was deserving of commendation. He thought the American school's treatment might be regarded as the best, and he considered it pardonable in us to make this statement. That the combination of constitutional and local treatment was the right and proper way to treat skin diseases was its teachings; and, if he might particularize, eczemas, he thought, bore it out. We had to treat the general indications nearly as much as the local disease. There had been a time when it was heresy almost to say that—the German school was so predominant, laying down the dogma that every skin disease was a disease of the upper and outer surface and should be treated from that standpoint. The speaker thought the German school was coming around to our view. He considered this largely due to our own success—to the success of the gentlemen who had made themselves prominent and successful in the treatment of these diseases. Another point had been well made, the protective treatment of eczemas. There were a great many applications too strong for the surface given as standards in the U. S. Pharmacopœia. He believed that the zinc ointment which Wilson had given us was too strong, as it was an irritant. The speaker said that he found the general practitioner had a liking for rather stronger applications than those who had had a little more experience or practice in this class of diseases. He said this because even the dermatological books gave tremendous applications which were often very hurtful, as, for instance, chrysophanic acid. He would advise in the employment of that acid not to trust entirely to books, but to proceed with caution until it could be found what patients would bear.

Dr. Burge said that at no period of his life would he have thought of applying in these cases any of the powerful ointments. One ointment which he had used with a great deal of efficacy in many of these cases had been unguentum gallæ, one ounce, with ten grains of bicarbonate of sodium, never neglecting internal treatment where it seemed at all called for. He would like to know of the specialists whether such an application as that would be approved of.

Dr. Winfield thought that it certainly would in some cases, with the internal treatment as suggested.

The President asked in what class of cases it would be recommended.

Dr. Winfield replied that it might be recommended in the milder forms, where the chronic form had not been taken on—say two or three weeks old. Dr. Winfield asked Dr. Burge in what cases he would use it, whether indiscriminately or in particular cases.

Dr. Burge replied, Not indiscriminately. And yet he would not be able to make as careful and exact discrimination as the specialists could on that subject. He recollected particularly two or three of the cases that had been quite close to the chronic form, which had been very extensive, and which cleared up with what seemed to him remarkable rapidity under that treatment.

Dr. Harrigan asked Dr. Winfield if he had had any experience with resorcin.

Dr. Winfield said that he had used it, but his experience with it had been quite limited. He had used it in two cases.

Dr. McCorkle said that Dr. Sherwell, in speaking of eczema, had referred to the mucous membrane and the skin. It was known that terebinthinates acted very nicely upon the mucous membrane. What would be their action in eczema?

Dr. Sherwell replied that the turpentine might act very well in certain conditions where the skin needed a slight stimulation, but a balsam of benzoic acid was, he thought, ordinarily better. When the tincture of benzoin was evaporated down it acted almost as a rubber sheeting. The benzoic acid might not be the curative, but it was certainly a very pleasant application, and, being painted on, it acted as a protective almost as elastic as flexible collodion, as well as stimulant. He had never used turpentine *per se* in eczemas, but in some forms of psoriasis it did a great deal of good—probably by controlling capillary action—by lessening capillary dilatation. It was rubbed on with a cork with a little olive-oil. A piece of flannel was sewn over a cork, the part washed, and the scales soaked off, and turpentine and oil in equal parts rubbed on. This was non-irritating and non-offensive, and was sometimes very effective. He supposed that it had its effect in lessening the dilated condition of the vessels. That was one of the essential pathological conditions of psoriasis, as it was, doubtless, of bronchitis.

Book Notices.

A Practical Treatise on Impotence, Sterility, and Allied Disorders of the Male Sexual Organs. By Samuel W. Gross, A. M., M. D., LL. D., Professor of the Principles of Surgery and Clinical Surgery in the Jefferson Medical College of Philadelphia, etc. Third Edition, thoroughly revised. With Sixteen Illustrations. Philadelphia: Lea Brothers & Co., 1887. Pp. vii–17 to 172. [Price, $1.50.]

The second edition of this book was noticed by us at the time of its appearance—that is, in 1883. We must congratulate its author that another edition has been made necessary. The tone of the book is healthy, and a cheerful prognosis is given of many of the conditions of which it treats. We feel confident that the book will continue to sell on its merits, and that before long we shall have the pleasure of welcoming yet another new edition.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

Bureaux du "Progrès médical," Paris.—F. Balzer, "Contribution à l'étude de la broncho-pneumonie." (*2fr. 50.*) —— R. Blanchard, "De l'anesthésie par le protoxyde d'azote par la méthode du professeur P. Bert." (*3fr.*)

M. Cohen & Sohn, Bonn.—C. H. Stratz, "Allg. gynäkologische u. geburtshülfliche Diagnostik." (*12M.*)

H. Costenoble, Jena.—P. Mantegazza, "Die Hygiene der Liebe." (*4M.*)

F. Enke, Stuttgart.—Billroth u. Lücke, "Deutsche Chirurgie," 48th fasciculus. (*9M.*) —— K. Chyzer, "Die namhaften Kurorte und Heilquellen Ungarns u. seiner Uebenländer." (*6M.*) —— F. Friedberger u. E. Fröhner, "Lehrb. d. spec. Pathologie u. Therapie d. Hausthiere," 9th fasciculus. (*3M.*) —— S. Levy, "Anleitung zur Darstellung organischer Präparate." (*4M.*) —— H. Löhlein, "Zur Erinnerung an Carl Schroeder." (*1M.*) —— v. Nussbaum, "Leitfaden zur antiseptischen Wundbehandlung mit Rücksicht auf ihren gegenwärtigen Standpunkt." (*6M.*) —— A. Vogel, "Lehrbuch der Kinderkrankheiten," neu bearbeitet von Biedert. (*14M.*)

T. C. F. Enslin, Berlin.—Schuster, "Die Syphilis." (*3M.*)

C. Gerold's Sohn, Vienna.—H. Favarger, "Vortrag über chronische Tabakvergiftung." (*1M.*)

Lipsius & Fischer, Kiel.—T. Bruhn, "Beitrag zur Statistik d. Exstirpation tuberkulöser Lymphdrüsentumoren." (*1M.*)

F. Schnee, Hettstädt.—Rupprecht, "Der Trichinensucher," etc. (*1M. 80.*)

Vandenhoeck & Rupprecht, Göttingen.—G. Schaumlöffel, "Beiträge zur Lehre vom Ulcus ventriculi corrosivum." (*1M.*)

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the American Gynæcological Society. Volume XI. For the Year 1886. New York: D. Appleton & Co., 1887. Pp. 8–13 to 516.

A Practical Treatise on Diseases of the Eye. By Dr. Édouard Meyer, Professeur l'école pratique de la Faculté de Médecine de Paris, etc. Translated, with the assistance of the Author, from the Third French Edition, with additions, as contained in the Fourth German Edition, by Freeland Fergus, M. B., Ophthalmic Surgeon, Glasgow Royal Infirmary; Assistant Surgeon, Glasgow Eye Infirmary. With Two Hundred and Sixty-seven Illustrations and Three Colored Plates. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xi–17 to 647. [Price, $4.50.]

Lehrbuch der allgemeinen und speciellen pathologischen Anatomie für Aerzte und Studirende. Von Dr. Ernst Ziegler, Professor der pathologischen Anatomie und der allgemeinen Pathologie an der Universität Tübingen. Zwei Bände. Fünfte neu bearbeitete Auflage. Mit 703 theils schwarzen, theils bunten Abbildungen und einer Tafel in Chromo-lithographie. Erster Band. Allgemeine pathologische Anatomie und Pathogenese. Pp. xii–3 to 499. Zweiter Band. Specielle pathologische Anatomie. Mit 396 Holzschnitten und theilweise farbigen Abbildungen. Pp. x–3 to 1020. Jena: Gustav Fischer, 1887.

De la jugulation de la fièvre typhoide au moyen de la quinine et des bains tièdes. Par le Docteur G. Pécholier, Professeur agrégé à la Faculté de Médecine du Montpellier. Montpellier: Camille Goulet. Paris: A. Delahaye & E. Lecroosnier, 1887. Pp. 39.

A Practical Treatise on Renal Diseases and Urinary Analysis. By William Henry Porter, M. D., Professor of Clinical Medicine and Pathology in the New York Post-graduate Medical School and Hospital, etc. Containing One Hundred Illustrations. New York: William Wood & Co., 1887. Pp. xiii to 349.

Cyclopædia of Obstetrics and Gynæcology. Obstetric Operations. The Pathology of the Puerperium, being Volume IV of a Practical Treatise on Obstetrics. By Dr. A. Charpentier, Adjunct Professor at the Faculty of Medicine, Paris. Translated under the Supervision of, and with Notes and Additions by, Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. In Four Volumes. One Hundred and Ninety-one Wood Engravings and One Colored Plate. New York: William Wood & Co., 1887. Pp. 404.

A Manual of Treatment by Massage and Methodical Muscular Exercise. By Joseph Schreiber, M. D., Member of k. k. Gesellschaft der Aerzte of Vienna, etc. Translated, with the Author's Permission, by Walter Mendelson, M. D., of New York. Philadelphia: Lea Brothers & Co., 1887. Pp. viii–17 to 285. [Price, $2.75.]

Anæmia. By Frederick P. Henry, M. D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. [Reprinted from the "Polyclinic."] Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. 136. [Price, 75 cents.]

Practical Lessons in Nursing. Outlines for the Management of Diet; or, the Regulation of Food to the Requirements of Health and the Treatment of Disease. By Edward Tunis Bruen, M. D., Assistant Professor of Physical Diagnosis, University of Pennsylvania, etc. Philadelphia: J. B. Lippincott Company, 1887. Pp. 8–9 to 138. [Price, $1.]

Reports on the Progress of Medicine.

MATERIA MEDICA AND THERAPEUTICS.

Acetanilide.—Since the medicinal properties of this compound (the so-called antifebrine) were made public by Cohn and Hepp a short time ago, evidence has been accumulating of its therapeutic value. Its physiological action has been closely studied. Dr. Neill (" Bull. gén. de thérap.," Feb. 28, 1887), in a well-prepared and exhaustive paper, gives a critical review of the subject and adds several new observations. It is very essential that the drug be pure, and every specimen should be rejected as impure when it is odoriferous, when it does not present a whitish color, when it does not become transformed into a colorless liquid by a heated platinum wire, if it is not entirely volatile, or when it gives with hydrobromide of sodium an orange-red precipitate. The dose varies from 25 to 50 centigrammes (grs. 3¾–7½), according to the effect that is desired and the nature of the illness. In small doses—*i. e.*, 2 to 4 centigrammes to every kilogramme of the weight of the animal—the drug has no apparent effect in animals or in the human being in a state of health. In larger doses it is toxic and may prove fatal. The drugged animal, in a few minutes after the administration, suffers from a general languor, stupor, hesitancy in its movements, and progressive and rapid decrease of temperature. In a short time the animal lies on its side, the respirations become irregular, and the body grows colder and colder. There is anæsthesia of the posterior part of the body; the sensibility of those parts gradually disappears even when the anterior part reacts normally to a stimulus. Then follows collapse, which grows more and more pronounced, and death comes on slowly in from twenty-four to thirty-six hours after the ingestion of the drug. After toxic doses the respirations become slower, and asphyxia may supervene. The action of the heart in a short time is increased in frequency and force, in which state it continues for quite a time, after which it grows weaker and becomes irregular. From small doses, in a state of health, no effects on the temperature are noticed. With large doses there is a rapid reduction of from 8° to 10° F. That the drug has an action on the nervous system is evident from experimental and clinical research. In non-toxic doses it has no effect upon the cerebral system, for the animal remains intelligent and notices its surroundings. It influences the excito-motor function of the bulb and medulla, diminishing its activity. It produces its effect upon the peripheral system through a vaso-motor influence. It would therefore expend its power chiefly on the vaso-motor and thermic centers. The author sums up as follows: Acetanilide exercises a marked influence on the nervous system, evidenced by collapse following a short period of excitement, by general anæsthesia and analgesia, by its modification of the functions of the heart and circulation, by lowering the central and peripheral temperature. In toxic doses it changes the normal elements of the blood, especially the oxyhæmoglobin, which rapidly becomes changed into methæmoglobin. This results in a considerable impairment of the respiratory function, which may lead to death. In its mechanical action the drug would appear to influence the cells of the bulb and medulla directly. Acetanilide is a powerful antithermic and a valuable nervine. As an antithermic it is of great utility in nearly all cases where the indication is to lower elevated temperature. As a nervine it is useful in morbid superexcitability, and it may be used also in epilepsy. It loses its effect when given for a long time uninterruptedly. The quantity of urine is often diminished, sometimes remains stationary, but is never increased.

Dr. H. Riese (" Dtsch. Med.-Ztg.," 1887, No. 11) has used this new antipyretic in 30 cases attended with fever. These comprised 10 cases of acute rheumatism, 5 of typhoid, 2 of pleuritic effusion, 4 of croupous pneumonia, and 9 of pulmonary phthisis. At first not more than 2 grammes (gr. xxx) were given daily, and, as the remedy was well borne, the dosage was increased to 3 and 4 grammes, and in one case to 6 grammes a day, without the slightest evidence of intoxication. In acute rheumatism, even in doses of 15 grains four times a day, the fever remained subfebrile; only exceptionally was the temperature reduced to the normal. The antipyretic effect of the drug was most readily obtained in typhoid, though even in this affection it was seldom that the temperature was maintained at the normal for any length of time. In croupous pneumonia the drug was given at the acme of the evening remission in hourly doses. The temperature fell 1° within an hour, continued falling for the next four or five hours, and began to ascend again in about six hours. In the cases of pleuritic effusion, no reduction of temperature was observed in one, and in the other there was a slight reduction only. The most marked effect was noticed in phthisis, in which a few doses of 0·25 gramme (gr. 3¾) produced apyrexia of twelve hours' duration, while doses of 15 grains were no more effective. Still, the large doses had a greater influence upon the ascending curves of the temperature. In general, a few doses of 7½ grains reduced the temperature to the normal in from two to three hours, where it remained for four to ten hours. The pulse frequency corresponded, in the main, with the lowering of the temperature. Only in two cases of pneumonia and in one of relapsed typhoid did the pulse, a few days before death, become fluttering and irregular, and the patients collapsed rapidly. A complete collapse occurred in a phthisical patient after a single dose of 0·75 gramme (gr. 11); the pulse entirely disappeared, and respiration also ceased. The respiratory movements were constantly diminished, the respirations became deeper, and frequently slight cyanosis of the face and extremities, especially in consumptives, obtained. Giddiness or headache was not complained of, and continued nausea or vomiting was never experienced. There was no diarrhœa. Often the author observed an improvement of the appetite in consumptives. Irritation of the kidneys was not observed; increase of the quantity of urine occurred in only one instance. The reduction of temperature was constantly attended with profuse perspiration. In three cases the reascent of the fever was accompanied by chills. A specific influence on the course of the disease was witnessed only in ten cases of acute rheumatism; the pains immediately grew easier, and entirely disappeared in the course of five days. After large doses the swelling of the joints and pain vanished within three days. A slight degree of fever, as a rule, continued for the first few days. The author concludes by saying that in antifebrine we have gained a valuable remedy in acute rheumatism.

Dr. H. Eisenhart (*ibid.*) gave acetanilide in thirty cases in von Ziemssen's clinic with very gratifying results. He draws the following conclusions: 1. Acetanilide is a valuable antipyretic, which in doses of 0·25 to 0·5 gramme (grs. 3¾ to 7½) produces a considerable reduction of the temperature; 0·25 gramme of acetanilide is equal to 1 grain of antipyrine as an antipyretic. 2. The remedy is equally efficacious *per rectum* as by the mouth. 3. It is constantly well borne. Nausea and vomiting do not occur. On the other hand, profuse sweating occurred in half of the cases, and only in one case a slight chill was experienced. 4. The action of the drug manifests itself usually in two hours after its administration, reaching its maximum in four hours. The duration of the antipyresis averaged six hours. 5. The cases of typhoid treated with acetanilide ran, for the most part, a mild course compared with cases not so treated. 6. Acetanilide does not appear to be as valuable as salicylate of sodium in acute rheumatism.

Dr. Stachiewicz (*ibid.*) employed the remedy in twelve cases of consumption in Brehmer's Hospital. In three cases in which the disease was advanced, with continued high fever, the remedy did not seem to be of any benefit. The temperature began to fall within an hour after the drug was given, and there was profuse sweating, and in one case collapse occurred. In three to four hours the temperature went up as high as ever. In five other cases in which the patient still had considerable strength, and in which the temperature was 39° C., small doses of the drug several times a day reduced the temperature to 37° C., without any marked perspiration.

Cannabine, the Active Principle of Cannabis Indica.—Pharmacologists are far from being agreed as to the active agent of *Cannabis indica.* Some hold that it resides in the essential oil, others again that it is to be found in the resin. With a view of determining this point, Dr. F. Roux ("Bull. gén. de thérap.," Dec. 15, 1886) undertook a number of experiments, which are fully described in his paper. As a result of his experiments he makes the following conclusions: 1. The active principle of *Cannabis indica* resides in the resin, as was believed by Gastinel and Robertson, and not in the essential oil, as was held by Personne and Robiquet. 2. An oleic extract possesses excitant and convulsive properties. In doses of 1 gramme (gr. 15) it produces true coma, and is a toxic, the animal succumbing in eleven to twelve hours. 3. An alcoholic extract appears to have, in certain individuals, a narcotic effect, but the sleep produced is rarely profound. Its action is very uncertain in small doses, in which doses it must be given to avoid subsequent unpleasant disturbances of digestion. 4. An ethereal extract produces only insignificant results. 5. The other preparations—such as the tannate of cannabine, etc.—are absolutely inactive. 6. All the active extracts cause in a short time anorexia, and lead to emaciation and marked apathy. It is not necessary to continue the use of the drug for a long time to obtain this result; a few doses suffice. 7. In consequence of the variable effects, owing to the method of preparing cannabine—effects which can not be foreseen—and in consequence of the accidents which the drug is likely to cause, which may even terminate in death in susceptible persons, the author thinks that cannabine should not enter into the therapeutic armamentarium.

Oxalic Acid in Asthma.—Dr. V. Paulet (*ibid.*) explains at some length why oxalic acid, though a dangerous poison, should be employed for medicinal purposes. He lays stress upon the difference of action when the drug is given in a concentrated and when it is given in a diluted form. The considerations which are necessary to be borne in mind when administering the drug are as follows: 1. The dose should be in proportion to the weight of the body. 2. Time of administration. 3. The state of health or of the disease of the subject. 4. The idiosyncrasy of the person. The paper concludes with the report of two cases of asthma in which oxalic acid proved very beneficial.

Miscellany.

The Criminality of Abortionists.—"The practice of criminal abortion," says the "Lancet," "is a kind of villany the enormity of which we have no wish to minimize. To take away the life of an undeveloped infant, unless it be to save the more important life of the mother, is in itself an inexcusable piece of wickedness. To risk the mother's safety in doing so, clearly aggravates the crime, and there are circumstances in which such an offense may be even regarded as murder. It is rather, however, in most cases, one of those misdeeds which lie just on the borderland between homicide and murder, and its exact significance must often be difficult to define. In a case recently tried at Warwick Assizes two persons were sentenced to death, though with a recommendation to mercy, for having caused the death of a young woman by procuring an abortion. Here the evidence available seems to have amounted to proof of murder; yet it is, we confess, somewhat difficult for us to reconcile our ideas to such a supposition. Murder implies either a design to kill or the employment against the person of means capable of killing, with a reckless disregard of their worst possible effects. It is, we should say, virtually impossible that two persons desirous of hushing up a scandal by causing abortion should directly contrive the death of a third, the subject of this operation. When we come to the question of reckless procedure, the mere fact of the operation undoubtedly goes far to prove a criminal disregard of consequences, and is in itself highly illegal. Nevertheless, we have still considerable difficulty in accepting the view that this in itself is enough to prove a graver crime than culpable homicide. It is at least doubtful whether some concession should not in such cases be allowed to the criminal on the ground that, while doing wrong, he has blundered through unskillfulness beyond his intention, or even his apprehensions. He goes about his malpractices, it is true, with his eyes open both to its dangers and its illegality, yet he must in his own interest endeavor to prevent the worst consequences. These are, as a rule, not impossible of prevention, whatever the uncertainty and difficulty of arriving at such a result. If it were otherwise, induction of abortion in any case would be impossible. Consequently, the abortionist, bad though he is, must in many cases be excused from such utter recklessness as would render him distinctly guilty of murder. We should remember, too, that the subject of his unscrupulous attempt is usually a consenting party, not a mere victim. These considerations have, doubtless, weighed with the jury in recommending the prisoners above mentioned to mercy; and, though we do not know of any injustice in the sentence, we are disposed to think that they may very fairly be urged as a plea for its commutation."

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending June 9th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending May 21st corresponded to an annual rate of 20·3 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Wolverhampton, viz., 12·3, and the highest in Manchester, viz., 31·1 in a thousand.

London.—One thousand five hundred and thirty-six deaths were registered during the week ending May 21st, including 98 from measles, 11 from scarlet fever, 12 from diphtheria, 66 from whooping-cough, 4 from enteric fever, and 12 from diarrhœa and dysentery. There were 289 deaths from diseases of the respiratory organs. Different forms of violence caused 61 deaths, and 10 suicides were registered. The deaths from all causes corresponded to an annual rate of 19 in a thousand. In greater London, 1,848 deaths were registered, corresponding to an annual rate of 17·8 in a thousand of the population. In the "outer ring" 17 deaths from measles, 12 from whooping-cough, and 8 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending May 21st, in the sixteen principal town districts of Ireland, was 22·6 in a thousand of the population. The lowest rate was recorded in Lurgan, viz., 10·3, and the highest in Drogheda, viz., 50·7 in a thousand.

Dublin.—One hundred and seventy-two deaths were registered during the week ending May 21st, including 8 from measles, 5 from scarlet fever, 3 from typhus, 6 from whooping-cough, 1 from enteric fever, and 1 from cerebro-spinal fever. Diseases of the respiratory organs caused 38 deaths. In seventeen instances the causes of death were uncertified, and 4 accidental deaths and 1 homicide were registered. The deaths from all causes corresponded to an annual rate of 25·4 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending May 21st was 21·3 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Edinburgh, viz., 15·7, and the highest in Glasgow, viz., 24·5 in a thousand. The aggregate number of deaths registered from all causes was 532, including 10 from measles, 6 from scarlet fever, 3 from diphtheria, 42 from whooping-cough, and 3 from diarrhœa. The death rate during the week ending May 14th was 21·5 in a thousand. The lowest mortality was recorded in Leith, viz., 10·8 in a thousand, and the highest in Edinburgh, viz., 23·7 in a thousand. Five hundred and thirty-six deaths were registered from all causes, including 15 from measles, 12 from scarlet fever, 7 from diphtheria, 36 from whooping-cough, and 3 from diarrhœa.

Germany.—The deaths registered in fifty cities of Germany, having an aggregate population of 6,711,342, during the week ending May 7th, corresponded to an annual rate of 23·5. The lowest rate was recorded in Halle, viz., 12·8, and the highest in Münster, viz., 38.

Santiago, Cape Verde.—The United States consul, under date of April 26, 1887, reports that "there were 6 cases of small-pox at St. Vincent between the 17th and 24th instant. Two of the cases have resulted in death. All vessels leaving St. Vincent for other ports in the province on arriving are put in quarantine for fourteen days and upward."

Bordeaux.—Four hundred and ninety-eight deaths were registered during the month of April, 1887, including 1 from small-pox, 11 from enteric fever, and 1 from scarlet fever.

Havana.—Twenty-five deaths from yellow fever and 8 from small-pox were registered during the week ending May 26th. During the week ending June 2d, 25 deaths from yellow fever and 7 from small-pox were registered.

Mortality Table, Foreign Cities.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Calcutta	April 16.	433,219	246	67	....	...	....	....	....	....
Paris	May 14.	2,260,045	1,062	..	....	14	....	14	6	30
Warsaw	May 7.	439,174	177	..	....	11	....	....	....	....
Trieste	May 7.	150,157	78	..	.. ..	2	....	....	1	1
Havre	May 14.	112,074	63	..	....	1	....	...	....	1
Genoa	May 14.	179,387	97	..	....	2	....	....	....	....
Rome	March 26.	364,511	151	..	...	5	....	1	1	2
Gibraltar	May 8.	23,631	15	..	....	2	...	....	....	....
Bordeaux	May 14.	240,582	95	..	....	....	.. ..	1	....	....
Munich	May 7.	269,000	183	..	....	....	....	2	1	2
Bremen	May 7.	119,000	52	..	....	....	....	....	....	1
Amsterdam	May 14.	378,686	13	..	....	....	....	1	....	....
Leipsic	May 14.	170,000	61	..	....	....	....	....	1	3
Mayence	May 7.	65,701	27	..	....	....	....	....	....	1
Reims	May 14.	93,083	45	..	....	.. ..	....	...	....	2
Palermo	May 14.	250,000	108	..	....	....	....	1	11	5
Pernambuco	April 26.	111,000	78	..	....	....	1	...	....	....
Bristol	May 14.	223,695	77	..	....	....	....	1	....	....
Glasgow	May 14.	545,678	238	..	....	.. ..	....	....	6	4
Belfast	May 14.	224,422	93	..	....	....	....	....	....	1
Toronto	May 28.	120,000	17	..	....	....	....	....	....	2

United States.

Key West.—The medical officer in charge of the Marine-Hospital Service at Key West (Passed Assistant Surgeon A. H. Glennan), under date of June 4th, reports a total of 15 cases of yellow fever, including a few cases of "suspects," and 4 deaths. "Two cases have been reported from newspaper offices, 1 at the jail last night, and 1 at the hotel this morning. So far all patients have been promptly isolated by removal to the Barracks Hospital since its organization, and the board of health have done everything in their power to prevent the spread of the disease." The president of the Key West Board of Health, Dr. J. Y. Porter, reported by telegraph, under date of June 5th, that "fever has ceased to be sporadic, and absolute segregation of patients in hospital impossible, as friends conceal cases, and violently oppose removing sick; therefore, for these reasons, the board will declare the disease to be fast assuming an epidemic character. Total cases to date, 17; deaths, 5."

The Secretary of the Treasury has authorized the employment of nurses and guards to assist the board of health at the Barracks Hospital, and in guarding infected premises at Key West.*

Tampa, Fla.—Extra help has been employed at Tampa in the disinfection of mails. The requirements, as reported by the president of the board of health, Dr. J. P. Wall, are fifteen days' detention in quarantine and disinfection of baggage. He also reports that all the coast counties south of Tampa have instituted quarantine, and that mails are fumigated aboard ship.

Apalachicola, Fla.—Quarantine was opened on the 15th of May, 1887. The rules and regulations require that "all boats and vessels arriving at the port of Apalachicola on and after May 15, 1887, either foreign or domestic, upon which any contagious, infectious, or pestilential disease has occurred or existed during the voyage to said city, or within thirty days next preceding the arrival of said boat or vessel, are forbidden to approach said city nearer than as specified in the rules and regulations. . . . All vessels arriving from an infected or suspicious port will be held in quarantine not less than thirty days from date of departure from said port, and shall be cleansed or fumigated, as the physician or inspector may direct."

The rules and regulations also contain an extract from the laws of Florida, providing for the appointment of boards of health in and for the several counties in the State of Florida, as follows: "Every board of health thus created shall have full power to act in regard to all matters pertaining to quarantine, public health, vital statistics, and the abatement of nuisances, to appoint and compensate a suitable port inspector, and such other officers as they may find necessary. . . . Any person who shall interfere with, or hinder, or oppose any such agent, or officer, or member of the board in his or their discharge of duty as such, shall be fined not exceeding one thousand dollars."

Every board of health may at any time establish such quarantine as in their judgment is expedient for the public welfare, and provide such rules and regulations for the same as may be needful for the proper enforcement of such quarantine against any port or place.

THERAPEUTICAL NOTES.

Acetophenetidine as an Antipyretic.—Hinsberg and Kust ("Ctrlbl. f. d. med. Wissensch."; "Gaz. hebdom. de méd. et de chir.") state that this substance resembles acetanilide in its chemical composition, and crystallizes in needles sparingly soluble in water but soluble in acetic acid and in alcohol. Administered to animals, it causes acceleration of the respiratory movements, somnolence, and a paretic state of the voluntary muscles; in the dog, moreover, it produces vomiting, cyanosis, and a blood change consisting in the formation of methæmoglobin. In physiological doses, however, its toxicity seems feeble. It was given to patients suffering with the fever of tuberculosis, in doses of from three to eight grains, with the result of lowering the temperature 2° C. (= 3·6° F.) in the course of four hours. The authors observed neither collapse nor cyanosis. Little is known of the mode of action of the drug.

Ignipuncture in the Treatment of Tuberculous Glands.—At the recent meeting of the German *Gesellschaft für Chirurgie* ("Dtsch. Med.-Ztg."), Dr. Genzmer, of Halle, reported excellent results from the use of Paquelin's cautery for the multiple puncture of tuberculous glands in cases unsuitable for extirpation. On small glands he used a needle-shaped cautery, and on large ones a cautery shaped like a knife. Similar results were obtained in dealing with tumors of various kinds, including goître and tuberculous testicle. [It was a favorite practice with the late Dr. Gurdon Buck, of New York, to destroy lymphatic glands of the groin, when they had been exposed by the suppuration and loss of integument due to venereal infection, by boring into them in a number of places with a stick of nitrate of silver.]

A Modification of Kraske's Method of Treating Erysipelas.—Classen ("Ctrlbl. f. Chir."; "Ctrlbl. f. d. ges. Therap."), instead of scarifying the whole erysipelatous patch, like Kraske, cuts only at the border. The patient being anæsthetized, incisions from 6 to 8 ctm. (2 to 3 inches) long, superficial but deep enough to draw blood, are made in such a direction that one half of each involves the diseased and the other half the healthy skin, and at a distance of about ½ ctm. (⅙ inch) apart. Each of them is then crossed by another at an acute angle, the point of intersection coming about at the junction of the erysipelatous with the healthy skin. Cloths wet with a 1-to-1,000 solution of corrosive sublimate are applied to the scarified part, and are changed three times a day. In the cases briefly mentioned, when the treatment was employed energetically in the morning, the fever was found to have disappeared by evening. No permanent scars are left, but, in view of the possibility of their occurrence, the method is not recommended for use on the face.

Oleum Cinereum.—Dr. E. Lang ("Wien. med. Wochenschr."; "Am. Jour. of Pharm.") uses this preparation as a topical application in certain syphilitic affections, also as an injection into enlarged glands, using 0·01 or 0·02 cc. once a week or once a fortnight. It is made by triturating mercury, oil, and lard together in a cool place until the mercury is uniformly suspended. The finished product contains 20 per cent. of mercury. When it is used as an injection, it is melted by the warmth of the hand. The proportion of oil to lard, also the kind of oil, are not stated.

Asafœtida in the Treatment of Habitual Abortion.—Negri ("Sperimentale"; "Ctrlbl. f. Gynäkol."), having had his attention directed to the matter by Laferta's, Cazzoni's, and Giordano's publications, tried asafœtida in two cases of habitual abortion not attributable to syphilis or any other ascertainable cause; and successfully in both instances. Eighteen grains of the drug were given daily for a long period, and that amount was well borne.

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* Twenty-two cases and 8 deaths from yellow fever have been reported up to June 10th.

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Original Communications.

ON THE
CLASSIFICATION OF MENTAL DISEASES.*

By RALPH L. PARSONS, M. D.,
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Within the past few years strenuous efforts have been made to secure a uniform classification of the forms of mental diseases, for the purpose of facilitating a comparison of the statistics of these maladies throughout the civilized world. The subject has been discussed at several national and international meetings and conventions, but thus far without any decided result. An inspection of ten of the various methods suggested shows a substantial agreement in only three, although by a sort of mutual consent only the most important and fundamental varieties of insanity were included.

Systematic writers on the subject of mental diseases differ still more widely in the methods of classification they have adopted; especially the later writers, many of whom have endeavored to include specific as well as general forms in such a way as to make their classifications definitive as well as exhaustive.

That a uniform system would be of great advantage is obvious enough. A comparison of the statistics of insanity in different parts of the same country and in different countries would then become possible; the scientific study of mental diseases would be promoted, and the jurisprudence of insanity would become more intelligible and precise.

It may be premised that the difficulties experienced in making a classification which shall be acceptable to all alienists and jurisconsults lie in part in the fact that the knowledge of the subject in question is limited and imperfect, and in part in the nature of the case; inasmuch as there are no natural divisions and distinctions between the different forms of mental alienation in accordance with which they can be divided or classified into orders and species in any such sense as that in which animals and plants can be thus classified. In the case of the latter there are well-marked differences of structure by means of which genera and even varieties may always be easily and surely recognized. The forms or characteristics by means of which they are distinguished have been inherited from their progenitors, and hence have that sort of uniformity or likeness which pertains to inherited characteristics. These forms and characteristics are persistent; they are neither abruptly changed for others nor are they suddenly lost. On the contrary, mental diseases sometimes have well-marked and distinctive characteristics and sometimes they have not, in the latter case having resemblances to two or more typical forms at the same time. Although the *tendency* to mental disease may be inherited, the disease itself is not. Hence mental disease may be unlike that of the progenitor from whom the tendency was inherited. Mental disease may be at one time of one type and then of another in the same individual. For instance, a patient may be at one time melancholic and at another maniacal during the same attack of insanity. It is true that a case classified as one of syphilitic or of toxic insanity may always remain the same in so far as relates to the cause, but the type of the insanity itself will still be subject to change.

Since so many unsatisfactory attempts have already been made to formulate a system of classification which shall be universally acceptable, the inquiry may pertinently be made why still another attempt should follow so many failures, especially when the acknowledged difficulties of the problem to be solved are taken into consideration.

The answer is twofold. In the first place, the attempts heretofore made have not been failures. The subject is many-sided, and hence may advantageously be studied from different points of view. The studies which have been made and the methods which have been proposed, from the simplest to the most complex, have, almost without exception, added to our knowledge; and our knowledge of the subject is constantly widening, so that classifications are now feasible and advantageous which could not have been made a few decades ago. Of the later classifications, those by Krafft-Ebing, Hammond, Spitzka, and Kellogg may be mentioned as especially meritorious. In the second place, with continued attempts, a nearer approach to success may fairly be expected. Hence a new study, even if the conclusions reached should be in the main in accordance with some previous study, can hardly be without advantage, and may, peradventure, open the way to a more satisfactory solution of the problem than has yet been attained.

It is well at the outset to get a definite idea of what is to be expected and of what advantage is to be gained from any system of classification. Then it will become easier to choose between the different methods which may be presented. While the orderly arrangement of the facts within our knowledge can not be expected to add directly to the number of these facts, it does add to their usefulness, inasmuch as they can then be readily found when wanted. Such an orderly arrangement also serves to stimulate the ascertaining of new facts, and to a comparison and study of all the facts within our knowledge on any particular subject, and thus to an increase of knowledge. That system of classification, then, would seem to be best in which the greatest number of fundamental facts can be included, at least if this can be done without confusion and without crowding out other more important facts. Then, again, the basis upon which the classification is founded should be broad enough to include all the facts to be arranged, for otherwise the system would either be incomplete or else two or more bases would be required; and in the latter case there would be lack of unity in the system and more or less confusion of thought in its study.

In considering the facts to be recorded in a classification of diseases of the mind, the symptoms through or by which these diseases are manifested will occur at once as especially important and worthy of attention, inasmuch as in the absence of these symptoms insanity can not be said to exist at all, either in the medical or in the medico-legal sense. And since the symptoms exist in all forms of insanity, they at least constitute a comprehensive basis for classification. In fact, all the earlier systems and the greater part of the later ones have been substantially founded upon symptoms as a basis. But there are objections to symptomatology as a basis for a system of classification. For instance, the symptoms often change during the progress of what is evidently the same attack of insanity. A case may commence with acute maniacal excitement, progress to a state of quiet mania with degenerative tendencies, and end in dementia; or a person with senile insanity may be at the same time melancholic and demented. Then, again, it may be urged that the symptoms do not sharply lead the attention to the physical causes which underlie and really constitute the disease. Still it must be admitted that the symptoms as manifested have much to do with the practical management and with the moral treatment of the patient.

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* Read before the Medical Society of the County of New York, May 23, 1887.

The diseased condition of the brain which is the immediate cause of the symptoms—as anæmia, hyperæmia, inflammation, degeneration of nerve-substance, tumors, etc.—would form an excellent practical basis for classification if it were sufficiently well known in all cases. But, unfortunately, there are many cases of insanity in which the pathological condition of the brain can not be diagnosticated. Even a careful post-mortem examination of the brains of persons who have died insane often fails in eliciting the immediate physical cause of the insanity. And this is not surprising when we consider that very sudden recoveries sometimes occur in the case of persons who have been a long time insane, showing that in some cases, at least, the pathological condition of the brain must have been very slight and fugitive in character. So, although the condition of the brain is a very important consideration and should constitute an element in any system of classification, it can not serve as a satisfactory basis.

The physical diseases which constitute a more remote cause of mental aberration are almost if not quite of equal importance with the above-mentioned class of cerebral diseases, as phthisis pulmonalis, syphilis, malaria, rheumatism, the puerperal state, lactation, the post-febrile state, diabetes gout, etc. Dr. Skae, following Morel, formulated a system of classification based on the immediate and more remote physical causes of insanity. He maintained that each of these varieties, as anæmic or puerperal insanity, had important characteristics which distinguished it from all other forms of the disease, and the recognition of which was of especial service in its treatment. Dr. Skae thought he could even diagnosticate the physical cause of most cases of insanity from a study of the mental symptoms alone. This is open to serious doubt. At all events, it would seem that he was unable to transmit this ability to his successors, since his mode of classification is only given as an alternative in the reports of the asylum of which he was in charge. But, as was remarked in connection with the cerebral pathology of insanity, all somatic causes which can be ascertained should be included as factors in a classification of the disease, although they can not serve as a satisfactory basis. Dr. Skae himself was obliged to adopt a symptomatic basis as supplementary to the somato-ætiological basis of which he was so strenuous an advocate. Hence his system was really founded upon a twofold basis.

A psychological basis for classification has been adopted by several authors of eminence. Hammond's earlier classification was on this basis, as also is his later method, for the most part. Since insanity is disease of the mind, it might naturally be taken for granted that the different faculties—as the intellect, the emotions, and the will—would form a sufficiently inclusive and comprehensive basis on which to build up a systematic enumeration of all the possible varieties of the disease. This is really so, but there are some practical difficulties to be encountered. In some cases all the mental faculties appear to be involved in a well-marked degree, while in others only a limited number of the mental operations are very evidently deranged. It would be difficult to arrange all these different varieties on a psychological basis without making the system too complicated for practical use. If an attempt were made also to include important physical causes or concomitants, the complication would be still further increased.

Although such characteristics as homicidal or suicidal tendencies can have only an incidental relation in any system of classification, they are yet of sufficient importance to demand a subordinate place.

It would appear, then, that, for the present at least, the basis for the classification of mental diseases first and most extensively used is the best. It now remains to be seen whether a system of classification on a symptomatological basis can be so arranged as to be an improvement on the systems heretofore in use. Even if this should not be accomplished at the present time, it may fairly be anticipated that a new discussion of the subject may open the way to a more successful attempt hereafter.

On the broad basis of symptoms, then, an attempt will be made to accomplish the following objects: First, to construct a method so elastic and so comprehensive, on the one hand, that any variety of insanity which may be differentiated can be included and readily arranged in its natural relation to other varieties, while, on the other, all the varieties and sub-varieties can readily be reduced to a few fundamental symptomatological types; in the second place, to make it capable of including all other systems and modes, so that they can be harmonized for purposes of comparison; in the third place, to include as many important related facts as possible; and, in the fourth place, to arrange the system in a tabular form, so that the different types and varieties of the disease may be readily enumerated for comparison or for statistical purposes.

Since the symptomatological plan will be strictly adhered to as a basis, such designations as epilepsy, general paresis, and hebephrenia will not be included.

Reference may now be made to the accompanying tabular arrangement and classification of the various types and varieties of mental disease.

The term monomania and its analogue paranoia are replaced by the term oligomania, for reasons which were fully set forth in a paper entitled "Nomenclature in Psychiatry," recently read before the Neurological Society.

The varieties of oligomania are placed in the first column, as a matter of convenience, since they do not often

A PROPOSED FORM FOR THE CLASSIFICATION AND TABULATION OF THE TYPES AND VARIETIES OF INSANITY.

	Oligomania.	M.	F.	T.	Mania.	M.	F.	T.	Melancholia.	M.	F.	T.	Dementia.	M.	F.	T.	TOTAL.		
																	M.	F.	T.
A Idiopathic forms (*a*) for the most part with hereditary or congenital predisposition, and depending upon moral causes.	Intellectual O., Affective O., Abulic O., Reasoning O., Impulsive O., Mysophobic O., Agoraphobic O., Claustrophobic O., O. of doubt, O. of suspicion, O. of pride, O. of vanity, O. of fear. Secondary O.				Acute M., Sub-acute M., Acute Delirious M., Stuporous M., Idiotic M., Transitory M., Recurrent M., Alternating M., Chronic M., etc.				Acute Mel., Sub-acute Mel., Stuporous Mel., Recurrent Mel., Alternating Mel., Agitated Mel., Nostalgic Mel., Resistive Mel., Panphobic Mel., etc.				Acute primary D. Secondary D.						
(*b*) having also certain important characteristics.					Homicidal M., Suicidal M., Delusional M., Religious M., Dipsomania, Ambitious M., etc.				Homicidal Mel., Suicidal Mel., Delusional Mel., etc.										
B Occurring at or in the course of certain crises.					Puerperal M., Climacteric M., Senile M., Adolescent M., Pubescent M., Post-connubial M., Lactomania, M. of Gestation, etc.				Puerperal Mel., Climacteric Mel., Senile Mel., Lacto-melancholia, etc.				Senile D., etc.						
C With certain physical conditions as causes or concomitants.					Rheumatic M., Phthisical M., Amenorrhœal M., Typhomania, Katatonic M., Cataleptic M., Anæmic M., Post-febrile M., Metastatic M., Sympathetic M., Diabetic M., Limoseric M., Podagrous M., etc.				Rheumatic Mel., Phthisical Mel., Amenorrhœal Mel., Katatonic Mel., Cataleptic Mel., Anæmic Mel., Post-febrile Mel., Metastatic Mel., Sympathetic Mel., Diabetic Mel., Limoseric Mel., Podagrous Mel., etc.				Rheumatic D., Phthisical D., Amenorrhœal D., Katatonic D., Cataleptic D., Anæmic D., Post-febrile D., Metastatic D., Sympathetic D., Diabetic D., Limoseric D., Podagrous D., etc.						
D Toxic insanities.					Alcoholic M., Malarial M., etc.				Alcoholic Mel., Malarial Mel., etc.				Alcoholic D., Malarial D., etc.						
E With certain neuroses as causes or concomitants.					Epileptic M., Hysterical M., Choreic M., Nymphomania, Erotomania, etc.				Hypochondr'c'l Ml., etc.				Epileptic D., Hysterical D., Choreic D., etc.						
F Having gross brain lesions as the cause.					Traumatic M., Paretic M., Paralytic M., Syphilitic M., Organic M., etc.				Paretic Mel., Paralytic Mel., Syphilitic Mel., Organic Mel., etc.				Traumatic D., Paretic D., Paralytic D., Syphilitic D., Organic D., etc.						
Totals........																			

change to other forms, as is the case with the varieties of mania and melancholia.

The meanings of the terms mania and dementia are so well understood as not to require a definition in this connection. The term oligomania, however, may need an explanation or definition. By oligomania is meant "*a form of insanity which, although potentially affecting all the mental faculties and operations, apparently involves only a part as the emotions, the intellect, or the will, or certain manifestations only of a faculty of the mind; the depression sometimes attending which originates in the intellectual faculties rather than in the feelings, and the manifestations of which are well defined, persistent, dominant, and systematic in character.*"

This type of insanity is not enumerated either by name or under any of its synonyms in some systems of the classification of mental diseases, nor in the statistical tables of the reports of many asylums for the insane. The reason of this omission is believed to be the want of a suitable term to designate the idea expressed in the above definition. Any physician who has had much experience with the insane must certainly have met with patients who could not be classed with either maniacs, melancholics, or dements, but who were undoubtedly insane, and who were really oligomaniacs in the sense above explained.

Although the emotions are generally expansive in cases of oligomania, mental depression exists in some cases to a degree as well marked as in some cases of melancholia. But in oligomania the depression depends upon and is caused by the intellectual aberration, as by delusions of a depressing nature, while in melancholia the depression arises immediately from and depends upon the disordered state of the feelings.

It is proper to mention in this connection that nearly all the varieties of insanity which have been differentiated have been included in the tabular arrangement, and space has been indicated for the names of such other varieties as may hereafter be differentiated. This is done to illustrate the elasticity and adaptability of the system. But names of varieties not included in any statistical report should be omitted from that report.

Amentia, with its subdivisions of idiocy, imbecility, and cretinism, has been omitted from the table. If included, amentia should precede oligomania in the arrangement.

The forms of insanity classified have been arranged in a tabular form in order to show how the system can be practically utilized in making out reports of institutions for the insane, or in general statistical reports on the subject, the tabular statement not only showing the number of cases of each of the great types of insanity, but also the number of cases of each variety. If found desirable, a separate enumeration of the subdivisions can be readily made, thus showing the number of cases of idiopathic insanity, of those having gross brain lesions, etc.

It may be objected that under this system many individual cases require to be classified under different types—at one time as maniacal and at another as melancholic, or as demented during the same attack of insanity. This is true of all classifications on either a symptomatological or a psychological basis; but this disadvantage may be considered as more than compensated for by the greater definiteness gained, especially when individual cases are in question. Even this disadvantage pertains only to idiopathic forms, for in all the others the qualifying adjective remains the same whatever the type of the insanity may be—as alcoholic mania, alcoholic melancholia, or alcoholic dementia. However, if any one should find the objection insurmountable, he would only need to use the term insanity wherever either oligomania, mania, melancholia, or dementia occurs. In fact, Dr. Skae adopted this plan in his classification.

In addition to oligomania one other new term has been introduced. The terms limopsoitas and limopsoitosic have been used to designate a variety of insanity caused by abstinence from food. The more significant and more euphonious term limoseric (λιμοξηρός—wasted with hunger) has been substituted, as limoseric mania, limoseric melancholia.

The terms paresis and epilepsy, as designating forms of insanity, have been discarded. They are used as adjectives in connection with the type of insanity with which the paretic or epileptic may be affected, as paretic mania, paretic dementia, or epileptic mania.

The terms alternating mania and alternating melancholia are used instead of the more usual term, circular insanity. A case of circular insanity should be tabulated as one of alternating mania or of alternating melancholia, according as the one or the other type might predominate.

The system of classification proposed in this paper has been constructed on the following plan: In the first place, a single basis has been adopted, and that the symptomatological. In the second place, all the varieties of insanity which have been differentiated have been or may be included, and provision has been made for any other varieties that may hereafter be differentiated. Students of mental disease may follow a system which gives perfect freedom for expansion, but they certainly will not follow a system which is narrow and restrictive. In the third place, the varieties have been arranged in groups in such a way as to include forms which are allied in some important particular in the same group, as the idiopathic insanities, those occurring at certain crises, those depending upon gross brain lesions, etc. In the fourth place, the various types and varieties are so arranged in a tabular form as to be easy of comparison.

The classifications of mental diseases are so numerous and so diverse that a comparison of the various systems and methods can not well be undertaken in this connection. Since, however, the method herein submitted includes or may include all the varities of insanity, all other methods can evidently be included in this. So, too, any classification of cases made in accordance with a comprehensive method may with little difficulty be reduced to any of the less inclusive systems. At all events, it may fairly be said that the most efficacious means of securing a substantially uniform method of classification would be the adoption of a method so comprehensive and so elastic as to include all the forms of mental disease now known or likely to be differentiated.

DUTY OF THE STATE IN PUBLIC HEALTH.[*]

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Although the original[†] of a part of this paper was written having especially in view the people and government of Italy, it is hoped that what follows may be of interest to the economists of America.

The great innovations—those which should be very advantageous to humanity—are, more than others, opposed from the first, objections being sometimes strong enough to arrest them for years, occasionally for centuries. This may be brought about through malevolence, or by the mere dislike of anything new. In medicine, particularly, obstacles to free progress of the truth appear to be more numerous than in any other branch of science.[‡] One of the greatest difficulties with which surgery has to struggle is represented by some of the most malignant diseases well known. These attack persons who have recently undergone some operation, occurring in a frequency disproportionate to the gravity of the cases. Many instances of this kind took place under the old regime. The mortality records of some former hospitals are dire enough. With the now recognized precautions of asepsis a surgeon may approach in confidence the most formidable operations, most if not all of which would be impossible without them. Pyæmia and septicæmia from such sources are now known only (or should be) from descriptions given of them.[#]

It is calculated[‖] that in Italy, during the year 1883, eighteen thousand women died *in partu*—that is, in the flower of their age. Other losses would indirectly flow from this, first to individuals and families, ultimately to the state. Puerperal fever has been produced by experiments on animals, through injection of the septic discharges. Our author makes the surprising statement that, even in this age of enlightenment, many Italian midwives, and some physicians, too, forbid lying-in women to be washed or have linen changed for quite a number of days after labor. During the same year there were about sixty-two thousand deaths from other contagious diseases. We read that five thousand deaths annually are caused by diarrhœa and dysentery, owing, doubtless, to bad local hygienic conditions, as seen by Professor Ruata. The modes of transmission of disease-germs in typhoid fever, and the ease with which it may be prevented, are referred to. Many cases, foci of infection, pass unperceived, probably through ignorance; such ought to be noticed by medical officers, whose special business it should be to look after them. Tuberculous phthisis[△] is considered to be infectious and preventible; reference is made to the good results one may expect from applying antiseptics to the lungs by inhalation. The breath of individuals may spread the disease; milk from tuberculous cows[*] may cause it in those otherwise healthy.

Professor Ruata refers briefly to cholera and the bacillus[†] of Koch, with the remark, "What practical utility results? Little, if any."

Thus much, as illustrations, for the multitudes that died. But what has been the effect on those who have indeed escaped with their lives? "The expense of sickness, time lost from work,[‡] deterioration of health, misery, desolation—malediction on society!" How much more destruction of life and happiness is due to these causes than to war and other violence! And what does the government do against them? Drugs are shown to be powerless to cure any of the infectious diseases.[#] Our author says: "I have no hope to ever be able to cure them by such means. This is my hypothesis, but sustained by facts that leave no doubt of its correctness." The difficulty of destroying the *Acarus scabiei* (so easy of access, relatively) is compared with that of even reaching the alleged peccant microbes, which, we are told, have more vital resistance than the itch-insect. How, then, is it possible to come at and kill these germs in the blood and tissue without great harm to health? "Specific treatment of disease seems to be unreasonable."[‖] We know that in these and like kinds of sickness there is a question of poisoning merely, and that it is within our power—the power of the government—to stop infection. We have police for crimes, why not for the detection and annihilation of such poisons, far more dangerous and destructive certainly than many an open foe? Every citizen has a right to expect that the state should guarantee his life against these terrible enemies, from which he can not be made safe unless by the intervention of a force able to absolutely impede their progress. We can, by barricading our houses, guard ourselves from thieves and murderers, but for these diseases we have no means of defense save those that the central authority should give; its responsibility in such things is so great as not to admit of any half-way measures. Deaths from these sources, and the consequences thereof, are to be laid at the door of the general government in its duty to public health. Public health is made up of the health of individuals. The need of enforced legal sanitation is apparent, nay, urgent! Why not apply Listerism (asepsis), which consists not only in mere pharmacal antiseptics, but in the use of all the means within the power of society to prevent the formation of nests (*nidus*) or centers of disease that may become poisonous to persons about? Formerly epidemics were rare because means of intercourse were few.

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[*] Read before the United States Naval Medical Society, April 7, 1887.

[†] "La Risponsabilità del Governo nella Salute Publica," by Professor C. Ruata ("Estratto dalla Gazzetta degli Ospedali").

[‡] The history of pseudo schools of medicine and of patent remedies may be studied for illustrations.

[#] "Tutti questi avvelenamenti del sangue, cosi comuni altri volti, sono ormai scomparsi, e non è molto tempo che un giovane medico inglese mi diceva ch' egli non conosceva che cosa fosse piemia o setticemia se non dalle descrizioni che i trattati ne fanno."—C. Ruata.

[‖] Official statistics published by the Italian Government.

[△] Lions have phthisis and elephants Bright's disease.—Gerard.

[*] Epidemics of pleuro-pneumonia and epizootic furnish examples of loss among the lower animals, to say nothing of inconvenience and danger therefrom to man; as, for instance, ailments due to impure meat and milk.

[†] *Vide* "Microbes," by E. L. Trouessart, in Appletons' "International Scientific Series."

"Aucune de ces vibrions ou de ces bactéries ne peut être considérée comme caractéristique de telle ou telle maladie ou comme la produisant. On ne les trouve pas dans les liquides des animaux vivants et sains." J. Pelletan, "Le microscope."

[‡] "En France, la maladie, avec ses chômages et ses frais, emporte 708 millions des francs chaque année." Congrès d'hygiène à la Haye, août, 1884; conférence de M. Rochard sur "La valeur économique de la vie humaine," "Jour. de méd. et de chir. prat.," Sept., 1884, p. 386.

[#] This idea is worth consideration by those who believe with Hahnemann that "drugs are the real curative agents" of disease.

[‖] Is not the supposed cure in such cases due entirely to the physiological action of the drug, rather than to any specific effect against the cause of disease?

Places of public resort or of private gathering may be points of diffusion.[*] Have we not an example of this in the epidemic of small-pox in Montreal, Canada, during 1885, where the disease was evidently spread by processions in the streets and the crowds in churches, seeking aid through ceremonial and prayer?

What is the duty of the government in such a condition of popular intelligence? The government's most productive act is to educate in the widest sense; that is, to show the people how to best use their own abilities in accordance with the laws of nature about them, from which, indeed, human life is not free. Why are there these sixty-two thousand deaths from contagious diseases? Why allow one person or family to poison another without restraint? Why is disease communicated in churches, theatres, hotels, railway-trains, and so forth?

Isolation of original cases and the endeavor to stamp out the disease in the start[†] would prove to be much more effective than the usual quarantine or sanitary cordon, which are, ordinarily, difficult of application and imperfect in result. England escaped cholera (1883) through the very prompt attention of her sanitary officials to the first imported cases, infection being thus hindered. The history of cholera in Naples shows how neglect may allow contagion, and a wise use of energy stop it. The inconvenience and difficulty of isolation have been objected. But which is the worse trouble, such temporary interference, or a ravaging epidemic? Shall the benefits of commerce, the profits of present trade, be held of more value than the great practical and future good of saving alive adult citizens?[‡]

With one properly qualified and authorized agent (the strong arm of the law duly sustaining him) to a certain number of inhabitants, epidemics might be avoided through separation (isolation) of the first single cases. When the disease occurred elsewhere, the health officer of that district should be there to thwart its progress.[#] Our Italian *confrère* thinks that it would not be hard to obtain the requisite number of fit medical men for this purpose, at least in his country; such physicians could also attend the poor. One great advantage of appointing doctors[*] for this work might be the giving to the populace right ideas on hygiene.

Laws and regulation exist *cui bono?* An enlightened public opinion only can bring about a thorough carrying out of the most perfect legal plans,[†] and this public opinion must be made through knowledge, *instruction*, EDUCATION! The following remark applies particularly, perhaps, to the smaller officials of some European countries, yet the "mustard-seed" of truth may be found for use in the New World: "In the eyes of the local authorities, a fine road or a monument to those who died from such diseases is of more importance than good drinking-water for the people — the people in whose health and prosperity consists the welfare of the state."

An organized body of capable sanitary officials, under the central direction of a board of public health, would be a most beneficent institution among many of which this age may wisely be proud.[‡]

The public health is endangered in a peculiarly insidious way by adulteration of food and drink.[#]

A healthy population or people—healthy in body and in mind—is the strength and riches of a nation. As a matter of wise conservation, the government or commonwealth should protect the ignorant from disease; the ignorant in such cases are not, necessarily, in the lowest rank of social life. Security—physical, hygienic, and mental—is better than material wealth. Natural liberty of the individual should not prevent the State giving medical assistance.

In all schemes of government aid the question is not as to the effect upon highly cultured or ideal men, but as to what, profitably to all, can be done for men in general, what may be expected from people as they are.[‖] We can not deal with them as we would with figures on a slate.[△] Reasoning, to be of value, must give deductions from observed facts of nature (including human nature), verified by general experience.

It is written of a renowned Russian general: "He listened to all told him, and gave the requisite orders without seeming to take any interest in what was said, though, in fact, alive to every tone and every change of expression in the speaker." To do otherwise than treat men and things as they are would be as futile as to expect anything real from Napoleon's plan for the government of his Europe made peaceful by conquest. An economist, besides educating himself, has much to observe.

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[*] "Pensai che il focolajo d'infezione comune fosse la chiesa, dove tutti accorevano, e che la pia madre che lasciava per pochi istanti il suo bambino ammalato per recarsi al tempio a pregare il Signore per la salvezza del figlio, seminasse in quel luogo stesso la morte per qualche altro."—C. Ruata.

[†] Disease in cattle, fowls, etc., may also be cut short by isolation and proper care in the beginning. This is done to some extent in America at present, but there is yet need of officials duly informed, so that infectious cases may be recognized without delay from ignorance.

[‡] For the action, in this connection, of those in control of Egypt during 1883, we refer to "Cholera," by J. A. S. Grant (Bey), M. D., in the "New York Medical Journal" for February 27, 1886.

[#] Isolation of cases of infectious diseases is yet so imperfect in the United States that, during the year 1886, there was a discussion before the Massachusetts Medical Society as to the means of getting better results therefrom.

[*] Using "doctor" in the sense also of the original Latin — "a teacher."

[†] Witness the power of religious and of race prejudice to nullify law.

[‡] For an interesting, vivid, and impressive presentation of some important details of this question (touching Italy), see "Cholera, and the Duties of Governments and Countries during Epidemics," by Professor E. Albanese, Palermo, in the "New York Medical Journal" of January 8, 1887.

[#] See "Modern Adulteration in Foods and their Relation to Disease," by E. H. Bartley, M. D., in the "New York Medical Journal" for July 17, 1886.

[‖] In the by-laws of the International Workingmen's Association (1864) it is stated that the association recognizes "truth, right, and morality as the basis of their conduct toward one another and their fellow-men, without respect to color, creed, or nationality. . . . No rights without duties, no duties without rights."

[△] However this may be in theory, we dare say that few men have capabilities of mind so unlimited as to be able to base anything practical thereon at present. "Le plus grand instrument de l'homme est l'homme."

The great influence of the Government appears in the following testimony by Malthus in 1827: "The Government of Ireland has, upon the whole, . . . tended to degrade the general mass of the people, and consequently to prevent them from looking forward and acquiring habits of prudence." Another phase is presented by R. B. Brough: "To the institution of aristocracy in this country (England) is mainly attributable all the political injustice, and more especially the groveling moral debasement we have to deplore." Malthus further says: "If the Government would remove hindrances to agriculture, and spread knowledge about it,* it would do more for the population of the country than by establishing five hundred foundling hospitals." Recent legislation in France, offering a premium for the seventh child, is quite opposed to the views of this philosopher as to the wisest way of increasing the population, and thus conducing to national prosperity. Population increases when means of sustenance increase. Removals give space for new-comers, from marriages becoming possible.

The cause of poverty? Poverty exists wherever two persons try to live on the food (everything necessary) nature has designed for one—accidents apart. Whose fault brings two beings into the world where one only can find perfect life?

The effect of character on actions and of actions on character are of great economic importance. The clear consciousness of personal responsibility is the soul and center of every healthy advance. Enlightened self-interest is a wise and potent motive in social betterment. "The language of experience owes much of its meaning to the interpreter." The ways, more or less direct, in which general knowledge aids in procuring and retaining physical well-being are very many; oftentimes they are not easy to find. A learned and strong guide is most valuable. Advice, teaching, example are better than positive aid, which has often caused feelings of dependence and selfishness antagonistic to the desired individual development. The hope and effort to improve their condition are fruitful in all classes, but most frequent and constant in the grades above the wretchedly poor. As an example, where there is evident ignorance, the people should be taught how best to utilize waste of unoccupied lands.†

The man who commits the crime may not be the most guilty, but he who causes or, being able to dispel, permits the darkness of ignorance. "Man shall not live by bread alone, but by every word that proceedeth out of the mouth of God"—that is, being interpreted, by the highest wisdom. Much disease and years of misery might be avoided if some judicious forethought—sometimes called worldly wisdom or common sense—were used in forming marriages and in the conduct of life afterward, especially in regard to offspring. Truth is weakened by any addition of error.

A wise government will care for the temporarily weak and needy portions of the community, they being on that account not less essential to public welfare than those who are able to provide for themselves in all things.

One important duty of the state is to require registration of deaths, with satisfactory evidence that it is due to natural causes—that is, not from crime.* The result of such action tends to educate the people so as to procure for the community at large physicians worthy of confidence, as is now attempted by the examination of men for the public service.

Whether laws (so easily and widely evaded) to regulate the practice of medicine that reduce good and bad to the same low level are a benefit, is a question upon which legislators may well bestow serious thought. Would it not be better to instruct the people so that they might judge with reason? Education for the raising of man's physical and mental condition "is rarely absolute, but relative, and should be conducted in language used by ordinary, clear-thinking men." Thorough informing of the people in regard to the laws that control mental and moral being (if, indeed, they are not identical) is needful in order to complete the work of customary education. Does not the highest education find its best use in making wise laws for social rule? The more freedom citizens have, so much the more profound must be their knowledge—knowledge of things concerning both body and mind—to prevent liberty becoming license and to attain the best results possible.†

Although some of the ideas herein presented may seem to have little relation to public health, the philosophic student knows that remote causes are often of greater influence than the proximate, usually deemed most important by the *vulgus*.

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* This idea might be fruitfully applied to the life of modern Greece.

† See "Russians of To-Day," chap. ii, on the condition of the lower classes.

* Billings, "Medicine in the United States," 1886.

† An outline of this broad education is given in the address of Carroll D. Wright, President of the American Social Science Association, under title, "Popular Instruction in Social Science." See Boston "Evening Transcript," September 7, 1886.

INSANITY AND OOPHORECTOMY.‡

By WILLIAM M. LESZYNSKY, M. D.,

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In only a small percentage of the insane can we discover a somatic basis for the mental derangement, although a multitude of abnormal physical conditions have been credited with a causative influence in the production of insanity.

Insanity at times occurs in persons who are the subjects of phthisis, chronic nephritis, alcoholism, syphilis, and numerous other morbid conditions.

That the existence of any of these diseases does not render such individuals exempt from the development of mental symptoms is unnecessary to mention. If they do not act as an exciting cause, they are usually contributory elements in aggravating or increasing the gravity of the situation.

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‡ Read before the Clinical Society of the New York Post-graduate Medical School and Hospital, May 7, 1887, in connection with a discussion on "The Indications and Contra-indications for Laparotomy"

As is well known, the psychical causes are generally the predominating factors in the production of insanity, the constitutional predisposition and an unstable nervous organization being the fertile soil for its development.

The fact that the exciting cause of an attack of insanity can occasionally be justly attributed to reflex irritation arising from uterine or ovarian disease, can not be questioned.

The premature and indiscriminate removal of the ovaries in cases of insanity and other neuroses has of late become so frequent and flagrant a procedure as to demand an emphatic protest against such reprehensible measures and such illegitimate practice.

Disclaiming all intentions of making any invidious distinctions, but at the risk of accusations of dogmatism, although much has been written upon this subject, I venture to present the history of two cases that have come under my personal observation, which may prove both instructive and interesting:

Case I.—Mary M., aged twenty-eight, single, occupation paper-folder, was admitted to the City Lunatic Asylum, during my term of service as resident physician, on October 21, 1879, with the following history:

This is her first attack of insanity, and began four weeks before admission, manifesting itself by utter neglect of her person, refusal to eat or speak, and gradually developing into a condition of profound depression. Previous to this she was invariably healthy, and of a pleasant and amiable disposition. She always applied herself very closely to religion. No hereditary history of physical or mental disease. As her parents are very illiterate people, no more satisfactory statement could be obtained.

She is in good physical condition, is bright and intelligent. No signs of mental depression. Answers questions in a rational manner readily and accurately.

October 23d.—Ideas of religion very much exalted. Religious delusions with ecstasy. Seeks seclusion and prays.

November 14th.—Since last note patient's mental condition has remained about the same. Physically she is deteriorating. Frequent hysterical manifestations.

18th.—Hysterical coma (?). Cataleptic rigidity of muscles.

December 1st.—Unchanged. Transferred to hospital ward. Body well nourished. Capillary circulation feeble. Pulse 84, full and regular. Temperature in axilla, 98·5° F. She lies abed in dorsal decubitus with closed eyelids, and is motionless. Her face is without expression, and no movement of the alæ nasi is noticeable. The respiratory act is almost imperceptible, and can only be recognized upon very close examination. She is apparently completely insensible to any form of irritation. All reflex action is abolished, and she can not be aroused. When food is placed in her mouth it remains without exciting the act of deglutition. Various irritants have been applied to the nasal mucous membrane without any perceptible effect. Pupils are equal, but do not react to light. Corneæ and conjunctivæ are insensitive to irritation. Ocular fundus is normal. Her muscular system seems relaxed, but her extremities may be placed in any awkward or unnatural position, and will remain in a state of rigidity for an almost indefinite time. Heart, lungs, and abdominal organs normal. The bladder and rectum are evacuated by mechanical means. Examination of urine negative. She receives concentrated nourishment by means of stomach-tube.

January 3, 1880.—To-day she recognized and answered the nurse with a monosyllable. This is the first time she has exhibited any sign of consciousness or motion since her admission to this ward.

6th.—Pulse getting weaker and body emaciating. Alimentation by stomach-pump in conjunction with nutritive enemata. To have brandy, cod-liver oil, iron, and quinine with her food.

14th.—Still in an unconscious condition, with cataleptic rigidity of muscles. Lies abed with closed eyelids and contracted pupils. Electro-contractility of muscles very much diminished. Knee-jerk absent. She can not be aroused. Strong faradaic and galvanic current ineffectual. At the suggestion of Dr. Allan McLane Hamilton, the inhalation of nitrous oxide was resorted to with the following result: Before inhalation—Temperature in rectum, 99·5° F. Pulse 108, feeble, full, regular, and very compressible. Respiration 24, and feeble. After inhaling for one hour—Temperature, 100·2° F. Pulse unchanged. Respiration 24, but stronger. No other perceptible effect.

February 7th.—Unchanged since last note. Although patient continues to be unconscious to external impressions, she sometimes laughs or cries, and indicates by her facial expressions the presence of pleasing or painful impressions. The respiratory movements are more perceptible than they were three weeks ago. The beat of the heart and pulse is weak, but easily discerned. Temperature (taken in rectum) during the past week has varied between 99·6° and 101·5° F. Urine removed by catheter (analysis negative). Body is somewhat emaciated. Everything is being done which is calculated to increase nutrition. She has been receiving (by aid of stomach-pump) six eggs, three pints of milk, and nine ounces of cream daily in conjunction with iron and cod-liver oil. Occasional laxatives and alcoholic stimulants when necessary. Entire surface of body is anointed with olive-oil daily, and the muscles are exercised by the daily application of the faradaic current. During the night she receives from twelve to sixteen ounces of defibrinated blood *per anum*.

23d.—Record of temperature since last note, from 99° to 101·6° F. Pulse 84 to 120. Patient has been in condition of catalepsy since November 18, 1879 (a period extending beyond three months). During that time she has received artificial alimentation either by aid of stomach-tube or enemata. She has not menstruated since her admission to the asylum.

24th.—At about 4 P. M. both ovaries were removed by laparotomy. The operation, which lasted twenty minutes, was performed under ether, and was attended with very little hæmorrhage. The ovaries were examined by Professor William H. Welch and found normal.

To complete the history of this remarkable case, it may prove of interest to report the results of the operation:

Coincidently with the development of septic peritonitis, which supervened within twelve hours, she opened her eyes moved her arms and hands, and exhibited symptoms of severe pain. The peritonitis and septicæmia rapidly advanced, and the patient's chance of recovery became more and more hopeless. At about 10.30 P. M. on the 26th, her temperature being 105·5° and pulse about 144 and feeble, the following was noted: She is rambling in her remarks, but occasionally speaks quite rationally. She complains of severe burning in the abdomen, and begs to have the iced applications made colder, speaking in a religious strain and quoting passages from Scripture. Says she would like to die, and has exalted ideas of the future. "I know you will do everything for me because I am dying, and you will do anything for a dying person. I do not want to live." She is talking incessantly, and has visual hallucinations.

27th, 1 A. M.—She has a vivid recollection of events which transpired during the prolonged period of her apparent unconsciousness. She recites in detail the circumstance of my feeding her by force, and says: "I always wanted to move, but was powerless and felt as though a heavy weight was holding me down. I refused food because I wanted to die. People used to look at me and say, 'She doesn't move,' 'She just moved,' 'She opened her eyes,'" etc. Cataleptic rigidity of muscles has almost completely disappeared.

28th.—At 1 A. M. in condition of collapse. Temperature 105·5°, pulse 150. She speaks at short intervals in a rational manner. She fully appreciates her condition, asks, "What time is it?" and says, "I know I am going to die and I am resigned."

She died at 2.12 A. M. on the 28th day of February, three days and twenty-two hours after the operation.

The fact that this patient returned to consciousness, and that of the disappearance of the cataleptic condition, merely add another case to the list of insane individuals who have become restored to rationality shortly before dissolution.

Case II.—Mrs. E. T. consulted me at my clinic in the Demilt Dispensary, December 18, 1883, the following history being given by her husband and a female friend who accompanied her:

Patient was born in England, is twenty-seven years of age, and married. Her father is living and in good health. Her mother died of phthisis. Eight years ago, after an attack of "brain fever," she attempted suicide by taking a large dose of laudanum. She received prompt attention, which resulted in recovery. Seven years ago she married her cousin, whose (their) uncle was insane. She has had two children; youngest child was born three months ago. She has never had a miscarriage. She is unable to suckle her infant, owing to the suppression of lacteal secretion. Symptoms of mental depression began about three weeks ago, having been preceded by slight headache and a few nights of restless sleep. She is very despondent, neglects her household duties, and cries frequently. Has visual hallucinations and numerous delusions of a depressive nature. Insomnia is a prominent symptom. There is absolute loss of appetite for food, and constipation is well marked. She still has considerable and constant vaginal discharge. The foregoing description of her mental condition is corroborated upon examination. Upon further investigation I find her capillary circulation deficient and extremities cold. Heart and lungs normal. Vaginal examination, made by Dr. Charles D. Scudder, the attending gynæcologist at the dispensary, reveals the following condition: Lacerated perinæum and cervix, subinvolution, retroflexion of the uterus, and slight ovarian hyperæsthesia. Her environment and domestic relations being of such an unfavorable character as to preclude the possibility of any satisfactory relief under "home treatment," I advised her immediate removal to the asylum, believing that to be the most suitable place where she could receive the necessary attention that her condition demanded.

She did not reappear at the Demilt Dispensary, but a few days later I met her at another neurological clinic where her melancholia was receiving attention. Within a few weeks after her consultation with Dr. Scudder and myself her "ovaries and tubes" were removed and the melancholy trophies presented at a meeting of the Pathological Society with the encouraging statement that "the change in her mental condition was very marked, and at the end of twenty-four hours after the operation a very noticeable improvement was manifest which had steadily increased." The patient made a good recovery from the effects of the operation.

Having had the opportunity of visiting her within a few days after the operation, I found her mental condition to be the same as when she first consulted me. Subsequently her melancholia progressed and became more pronounced, until ultimately she was committed to the lunatic asylum, where she now remains an "incurable case," having reached the condition of terminal dementia.

These two cases that have been under my immediate supervision amply demonstrate the fact that the removal of the ovaries was an illegitimate and unjustifiable operation, and wholly unwarranted under the circumstances.

Practical utility and conservative principles should never be sacrificed on the altar of presumable brilliancy and self-glorification. The jeopardizing of human life and the nullification of physiological functions should never be instituted through irrational enthusiasm.

Physicians who are dominated by their specialistic proclivities, thereby being frequently misled into irrationality in their procedures and methods, are, fortunately, not a preponderating element in the ranks of the medical profession.

If in any case of insanity the existence of a pathological condition of the uterus or its appendages can be unequivocally demonstrated, and such morbid state be by logical process and clinical evidence indubitably proved to be either the exciting cause or a preponderating contributory influence in the production of the mental derangement, then, *and only under such circumstances*, after all other methods of treatment have been exhausted, can surgical interference such as oophorectomy be considered a legitimate procedure.

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THE PROGNOSIS OF ACUTE LOBAR PNEUMONIA.

By W. D. SCHUYLER, M. D.

(*Continued from page 544.*)

What is the fatality from pneumonia in the second age-class—the age of vigor? As it occurs, what is its most apparent cause? The mortality of acute lobar pneumonia in patients from puberty and through early adult life, during the age of vigor, it must be observed, is very slight, except when complications or asthenia are present; then it is correspondingly high. Authorities are quite unanimous upon this point, as shown by the following: "Acute simple lobar pneumonia happening between the ages of fifteen and forty, when uncomplicated except by a limited pleurisy, is not a perilous disorder; recovery is the rule" (Aitken). "During this period pneumonia is not a dangerous affection. It is uncommon for an uncomplicated pneumonia in a person who has been previously healthy to prove fatal" (Juergensen). "Occurring as a primary disease limited to a lower lobe, remaining uncomplicated, and the person affected having a good constitution, the immediate tendency is to recovery; indeed, recovery is not only the rule, but the exceptions are exceedingly infrequent" (Flint). Speaking of a limited pneumonia in a person of good constitution and uncomplicated, Wood ("Practice of Medicine," vol. ii, p. 20) says: "Cases of this kind almost always end in recovery under proper treatment, and not infrequently even without remedies, or with such as are improper." And Bennett ("Clinical Lectures on Medicine," p. 275), from a careful analysis of seventy-eight cases that occurred in the Royal Infirmary of Edinburgh during eight years of his dictatorship, in patients of the age we are considering, averaging thirty and one third years, says: "It follows from these facts that uncomplicated pneumonia, especially in young and vigorous constitutions, always gets well if, instead of being lowered, the vital powers are supported, and the excretion of effete products is assisted."

This testimony strongly affirms that acute lobar pneumonia, in itself and uncomplicated, occurring in patients of adult life, *is not a fatal malady*, but, on the contrary, that it naturally tends to recovery. Furthermore, according to Wood's statement, this tendency to recovery is so strong that it not infrequently prevails where no, or even improper, remedies are given.

On the other hand, and from the exceptions noted, we must conclude that the effects of complications upon prognosis are to make it doubtful or bad. It will have been observed that each author quoted above and throughout, in setting forth the grounds of a favorable prognosis, excluded complications.

The inference from the fact of such general exclusion—and all authorities make the same—is that complications, more than any other single fact or condition, render the prognosis unfavorable or fatal.

The prominence thus given to complications as a prognostic element—a prominence fully justified by statistics, especially as regards the result of the disease in the age-class we are now considering—leads me to take up their systematic study at this point before proceeding further with age considerations, which I shall return to afterward.

Therefore, let us inquire here what are the influences in complications of pneumonia that so seriously affect recovery from that disease? As foreshadowing their importance and influence, we may refer to the following statements:

"The existence of complications forms the most serious element in the prognosis" (Wilson Fox). And this statement he supports by reference to "Huss's collected results, where the mortality from the uncomplicated cases was 5·79 per cent., while that from the complicated was 19·29 per cent." Loomis ("Causes of Death in Acute Pneumonia," "Medical Record," vol. xix, p. 701) upon this point says: "In my analysis of 255 cases treated in Bellevue Hospital during a period of four years, of which 131 were uncomplicated and 124 complicated, I find that 168 terminated in recovery and 87 in death. Of these 87 deaths, 12 occurred in the uncomplicated cases, equaling 9·16 per cent, while 75 occurred in the complicated, equaling 60·4 per cent." In the same connection this author refers to Lebert's statistical report on pneumonia, who states that he lost only 5½ per cent. of his uncomplicated, while he lost all of his complicated; to the statistics of Huss, of Stockholm, who lost 6 per cent. of his uncomplicated and 20 per cent. of his complicated; and to Brundes's cases, which show that in 120 uncomplicated cases he lost only 6⅔ per cent., while in 22 complicated cases he lost all—100 per cent.

Although these numerical results, as given from the various sources, do not closely agree as to the mortality of pneumonia on account of complications, but vary from 19·1 to 100 per cent., yet they denote the very grave influence that such conditions exert upon its termination; from which I may remark here that the relatively greater fatality of pneumonia shown by these statements to occur when complications are present or develop, taken in connection with the fact that the natural tendency of the disease in uncomplicated cases is to recovery, strongly suggests the idea that, possibly always, or at least as a rule, when death occurs from pneumonia, a complication, or like influence or condition, is its true cause. Such suggestion has the support of a previous conclusion, namely, that, when death occurs from pneumonia in the infant-age class, it is due to complications or asthenia, and also of the general evidence given that the malady in the young adult when uncomplicated is not dangerous; and I premise it will receive further support still in our study of complications, and finally be wholly justified on the ground of a rational theory and its elucidation as to the essential action and course of the local anatomical process of the disease.

In order to develop the correctness of this suggestion as regards the complications of pneumonia, I shall now proceed to examine them collectively and severally, and to determine thereby (1) what are the most frequent complications, (2) what complications cause the greatest per cent. of fatality, and (3) what specific influence, cause, quality, or resultant of complications promotes fatality.

What are the most frequent complications? An answer to this question is afforded by Loomis, in the statistics referred to above, where he gives the order of frequency as they occurred in Bellevue Hospital, as follows: In 124 complicated cases alcoholism was most frequent, being the complication in 30, pleurisy was present in 17, Bright's disease in 13, pericarditis in 9, hypertrophy and dilatation of the heart in 3, peritonitis in 2, rubeola in 1, and fibrinous bronchitis in 1.

An answer to the second question is given by Wilson Fox (*l. c.*, p. 207), who states that, according to the English physicians, the greatest mortality occurs in the presence of endocarditis, death occurring in 75 per cent. of the cases it complicates; next in order he gives pericarditis, causing death in 54·5 per cent. of the cases it complicates; Bright's disease proves fatal in 50 per cent., tubercle in 33·3 per cent., emphysema of the lungs in 23 per cent., chlorosis in 20 per cent., and acute alcoholism and drunkenness in 25 to 20 per cent. of the cases they complicate.

If these figures are correct, and if it can be shown that these different complications or their anatomical results, acting severally and in degree comparable to the frequency of their occurrence and their fatality, tend to cause death in the same manner by a like cause of action, influence, or resultant, though varying in manner of application; then such common cause or resultant, rather than the apparent complication itself, should be regarded, essentially at least, as the immediate and real complication to be met.

Such common resultant I think can be disclosed as the cause of death in all complications, and I would suggest, at this place, that it is *in actu* a present or developed asthenia, and that it promotes death by contributing to a fatal insufficiency of either or both of the respiratory or the circulatory functions, or of the general vital processes.

This brings us to the third question—How do complications act to promote death in this disease?—an answer to which will necessitate a study of the several prognostic conditions given, which I shall take up in the order of their importance, as already denoted.

Alcoholism is one of the most important. According to Loomis's statistics, it occurred most frequently in the Bellevue Hospital cases, and according to Wilson Fox, it is a cause of death in England in 25 per cent. of the cases it complicates. How does alcoholism complicate acute pneumonia? Although the primary physiological effect of alcohol taken into the system in proportionally small and well-diluted doses is to stimulate it generally, to quicken the heart's action and increase the pulse, to excite nervous reflex action and to stimulate thought, to promote an appetite in a torpid stomach, and for a time, apparently, to increase the general strength and endurance; although alcohol is given medicinally, in the form of diluted liquors, by physicians in this country, in England, and throughout continental Europe, to relieve temporary exhaustion and to revive the system in conditions of shock, and is largely prescribed for its accredited sustaining action—namely, for its supposed inhibitory effect in delaying tissue change—in exhausting fevers; and although, according to Ringer ("Hand-book on Therapeutics," p. 325), it "strengthens the contractions of the heart, especially when it is weakened by debilitating disease, . . . strengthens the pulse and reduces its frequency," and therefore, according to this author, "must be considered one of the most powerful cardiac tonics"—yet (and besides the fact that it must still be considered a moot question whether alcohol is of any real tonic value as above set forth, even in its primary action) it must be admitted that its secondary and prolonged effects in the economy depress the vital tone, and that, as a further consequence of such prolonged use, structural organic impairment and a corresponding physical and general debility and asthenia occur.

The depressing or debilitating effects of long-continued alcoholic ingestion occur very generally throughout the entire organism. They result from its action (1) upon the gastric mucous membrane and gastric digestion; (2) upon the nutritive histological processes in the blood and throughout the system generally; (3) upon the nervous organism, and especially upon the organic system of nerves; (4) upon pulmonary respiration, physically and chemically considered, and, lastly, upon the general organic functions and nutritive actions.

Upon the gastric mucous membrane alcohol acts as a powerful stimulus and irritant, causing immediate and intense congestion; and if its ingestion is unduly prolonged, this congestion becomes chronic, and to that degree promotes morbid organic changes not only in the mucous membrane, but throughout the entire organ. In the former it leads to an increased development of epithelium, a hypertrophy and thickening of its fibrous structure, and a consequent atrophy of its glandular and secreting elements, while its nervous elements are rendered morbidly irritable, and thereby made readily susceptible to an irregular action; and in the submucous and muscular structures of the organ, thickening and histological impairment occur. In consequence of these changes there result a lessened production of the gastric digestive ferment and a lessened motory action (digestive) of the entire organ. There is, as a consequence, also a loss of appetite; less food is taken, and what is taken is less perfectly digested and converted into albuminose. Upon the remainder of the digestive tract these results, though less direct and extensive, are not less marked; and consequently, as a whole, in an alcoholic subject a nutritive juice deficient in quantity and in elaborated quality results to be furnished to the system, with which to replace the destructive waste continually going on. From such an imperfect pabulum good structures and sthenic conditions are naturally not developed. When taken into the stomach, alcohol passes quickly into the blood, where its presence acts to prevent those necessary hæmic and trophic changes required to constitute that fluid in itself an efficient source and medium of reparative supply and of interchange (chemico-vital) to and for the general tissues. Furthermore, as will be shown, alcohol taken into the blood circulates for a considerable time in that fluid unchanged, and thereby is brought into direct or close contact with every organ, tissue, and cell of the body; and hence its general inhibitory action also extends to and affects injuriously, besides digestion and the higher elaboration of the digestive juices, assimilation, dis-assimilation, and excretion, all of which are rendered imperfect; and hence, in the most profound sense, chronic alcoholism promotes an effete organic histotrophic state and an asthenic organic condition.

A further special effect of alcohol in the circulating blood is an inhibition of that normal interchange of the respiratory gases in the lungs which conduces to perfect hæmatosis.

On account of this inhibitory action, carbonic acid is not perfectly discharged from the system, and sufficient oxygen is not taken into it to enable the nutritive forces of the body to promote the maintenance of structural vigor; but such imperfect results directly favor instead a fatty degenerate state of the tissues. Again, by directly depressing nervous action in general, alcohol depresses the nutritive sense, lowers reflex action throughout the body, and thereby also the maintenance of tonic and sthenic results.

General organic alcoholic depression may be acute or chronic. Acute alcoholic depression is clearly evident in a person who has recently indulged in a drunken debauch—in his inability to sustain a prolonged or even a slight muscular effort, in his uncertain speech and posture and unsteady gait, in his deficient mental grip, weakened power of attention, deficient mental scope, uncertain judgment, and feebly controlled will-power; these symptoms, only more profound, also denote the asthenia which results from chronic over-indulgence.

That this depression especially enfeebles vaso-motor action is evident from the phenomena of acute drunkenness; in the relaxed condition of the cutaneous vessels and the depressed state of the general circulation; in the pulse, which, though full, is soft and uncertain; and in the heart's action, which is atonic. It is manifest again in the respiratory action by a delayed, short, catchy, or wavy inspiration—denoting the necessity for a culminative and abnormal stimulus; by a passive, blowing, or stertorous expiration—denoting a loss of organic contractile power in the pulmonary tissues; and by consequent imperfect respiratory results, namely, venous fullness and cyanosis. The relaxed sphincters and insensitive pharynx and conjunctivæ especially manifest a condition of depressed nervous tone. Furthermore, that there may result a grave condition of organic and nervous depression in the sedative stage of acute alcoholism after large quantities of liquor have been taken, is attested by Ringer (*l. c.*, p. 319), who, in reference to this fact, says: "Danger of death is imminent from paralysis of the heart and of the movements of respiration"; and also by Stillé ("Therapeutics and Materia Medica," vol. i, p. 691), who cites several cases where death occurred in that state.

As alcoholic organic depression affects in a special manner the structures, tone, and functions of the circulatory and respiratory organs, and not less the sufficiency of the vaso-motor nerves, such depression assumes particular importance with respect to the prognosis of acute pneumonia, as it is upon these organs and their functions that the stress and danger of that malady, by reason of the site of its local process, mainly fall; while, on the contrary, it is upon the maintenance of tonic conditions in these organs and of their adequate functional action, and of vaso-motor sufficiency, that recovery depends.

The inhibitory action of alcohol in the blood upon hæmatosis has been alluded to. According to Harley, as quoted by Ringer, the effect of alcohol on blood withdrawn from the body is to lessen its capacity for discharging carbonic acid and for absorbing oxygen. These effects being true out of the body, and the effect upon the blood circulating through the lungs being the same within the body, they are of special importance with regard to the prognosis of pneumonia, from both a pathological and a therapeutical standpoint. Pathologically, they are important as serving to explain the occurrence of sudden death from the disease which is often otherwise unaccountable. When the respiratory function is in part wholly inhibited by the presence of a local pneumonic process, and more or less completely inhibited by congestion in collateral areas and throughout the entire remaining pulmonary structures, and is, furthermore, impaired by the morbid pressure which is acting within and against the lung—if then to these conditions and the dangerous and oppressive dyspnœa they give rise to alcohol is added as still another cause of dyspnœa, a fatal apnœa may readily result.

Therapeutically, the fact is no less important, as it affords a strong contra-indication to the use of alcohol as a cardiac stimulant in all cases of pneumonia where the tendency to a dangerous dyspnœa, especially from pulmonary causes, is present.

That alcohol maintains its integrity for a considerable time in the blood and in the body is evident from the saturation the systems of drunkards may undergo, and from the occurrence of the so-called spontaneous combustion referred to by Stillé (vol. i, p. 696); and that it may circulate in the blood for some time after being taken, before it is eliminated or loses its identity, is shown by Dr. Massey ("Transactions of the American Medical Association," vol. viii, p. 595), who states that alcohol may be detected in the blood for some days after it has been freely drank. Evidence of its prolonged sojourn in the blood is afforded also by the persistence of its odor in the breath for hours after it has been taken. These facts further serve to sustain the position herein rendered apparent that alcohol in the blood, in pneumonia, favors asphyxia; and, therefore, its therapeutic use is contra-indicated under the conditions noticed.

Injurious Effects from Alcohol upon the Lung Stroma, and especially upon the Pulmonary Capillaries.—When alcohol is taken into the system it is mainly consumed there, or, if it escapes as such, it does so principally through the lungs with respiration. Except after it has been taken in large quantities, it is not excreted by the bowel or kidneys; and, while some may pass off in the perspiration when that function is active, yet very little does so. It does pass off through the lungs, and, judging by the odor of the breath, in large or comparatively large quantities. Its elimination from the blood through these organs naturally is through the pulmonary capillaries and the air-cells, and, thus coming into direct contact with them, it must permeate the entire vascular and vesicular structures of the lungs. Such contact, as has been shown, seriously inhibits the necessary nutritive, reparative process of these structures, and when continued for a considerable time, as in chronic alcoholism, must develop in them degenerate trophic conditions which, as regards the pulmonary capillaries, predispose to their atonic insufficiency; such resulting whenever a sufficient cause—either an overpowering blood-pressure within them on the one hand, or a temporary debility, may be paresis due to vaso-motor insufficiency, of the capillaries themselves on the other—may occur. This resulting vascular insufficiency, I hold, as previously set forth, is the initial step or lesion, and the essential cause, first, of the development of the pneumonic process, and, second, through it of the entire phenomena of acute pneumonia. Furthermore, the asthenia thus developed, besides predisposing to the occurrence of a pneumonic attack, also favors the occurrence of œdema of the lung in the course of this disease in alcoholic subjects; and thereby is explained the great tendency to its occurrence in alcoholism referred to by Stillé. It is evident from the foregoing that, while alcohol may fatally complicate pneumonia by rendering an oppressed hæmatosis more difficult, yet that mainly it does so indirectly by the asthenia it occasions. The asthenia resulting from alcohol may be local and fatally complicate pneumonia by promoting failure of the lungs or of the heart; or it may be general and prove a fatal complication by promoting insufficiency of vaso-motor nerves, or again of general organic action.

Inasmuch as asthenia is the principal result of alcoholism, that resulting state must be accepted as the true element of complication in connection with that condition. Therapeutically this fact indicates an early resort in alcoholic cases to a tonic and supporting (non-alcoholic) treatment.

The complication occurring second in the order of frequency, in the statistics referred to, is *pleurisy.* How does pleurisy in conjunction with acute pneumonia promote a fatal termination? It is evident that a pleurisy may complicate pneumonia in either of two ways. First, by the presence of an extensive exudate. To the extent that a pleuritic effusion increases in amount and fills the pulmonary space within the chest, so far it limits the possible expansion of the lungs and inhibits their capacity for functional action; and such limitation of action, added to the functional limitation caused by the presence of a pneumonic consolidate in the organs, may readily cause a dangerous apnœa. Again, to the extent the lungs are compressed by the presence of a pleuritic exudate, the pulmonary vessels are compressed; this adds to the obstruction to the circulation, already great by reason of the consolidate, and *pari passu* increases the burden suddenly thrown upon the right heart, and thereby the insufficiency of that organ is further promoted. Second, a pleurisy may complicate pneumonia by its adhesions. So far as a pleuritic effusion is adhesive and binds together the opposing pleural surfaces—or, not binding them together, serves to retard their free action one upon the other—it cripples the already dangerously embarrassed and overworked respiratory action, and to that degree promotes respiratory (motor) failure. Again, as respiratory action is retarded, circulation through the lungs is impeded, the tax upon the right heart is increased, and its exhaustion and failure are promoted. Clearly, therefore, while a pleurisy may directly complicate pneumonia by filling the chest and causing apnœa, yet it mainly does so by developing an asthenia which predisposes to either pulmonary or cardiac insufficiency and failure. The therapeutic indications arising from this complication are: *a.* Where a pleuritic effusion is so great that it dangerously cripples either or both the respiratory or the cardiac actions, paracentesis thoracis is clearly indicated. *b.* Where a large effusion exists conjointly with adhesions, or where for any reason relief from the pulmonary stricture (due to compression) can not be effected by paracentesis, and a large blood-volume exists to render such pulmonary stricture (obstruction) to the circulation hazardous to life, then venesection to diminish such blood-volume is a rational procedure. *c.* When a pleurisy, either by an effusion or an adhesion, promotes or denotes a condition of grave *asthenia*, jeopardizing a pneumonic patient, the indication is for the early administration of tonics and support.

Endocarditis, the presence of which, according to Huss's statistics, causes death in 75 per cent. of the cases of pneumonia it complicates; and *pericarditis*, which, according to the same authority, is the cause of death in 45·5 per cent. of the cases it complicates—like pleurisy, promotes death by causing additional resistance to a vitally necessary function suddenly taxed to its utmost energy; only with these complications the injurious effects are directly upon the heart. So far as an endocarditis impairs the action and sufficiency of the tricuspid or the semilunar valves, or more remotely causes hypertrophy of the right ventricular walls, and, afterward, their dilatation, it weakens the heart's functional power; and so far as a pericarditis causes adhesions between the heart and the pericardium, it increases the total resistance to its action, and equally its functional tax; and to such extent these affections complicating pneumonia promote right cardiac asthenia and the occurrence of death from cardiac insufficiency. The therapeutic indications arising from these complications are an early exhibition of cardiac tonics.

Bright's disease, according to the statistics given, is the next important complication. It ranks third in frequency in Loomis's Bellevue Hospital cases, and fourth as a cause of death in Huss's table. It is evident that Bright's disease must complicate pneumonia by reason of the organic general and local asthenia it promotes. General asthenia, especially of the organic nerves, is a most marked feature of chronic degeneration of the kidneys. It is natural, considering the loss of albumin (in some cases), the retention of waste excrementitious matters, derangement of nervous action, loss of appetite, imperfect digestion, assimilation, disassimilation, and excretion which the system suffers in this disease, that such a result should occur.

As a result of Bright's disease, the muscular structures of the body undergo degenerative changes, become smaller, softer, and less able to withstand a prolonged and suddenly increased functional strain. The fibrous tissues become relaxed, they undergo softening, absorb water, become swollen, lose their natural smoothness, lose in strength and ability to withstand the transudation of fluids, and (hence) their functional movements are attended with increased friction and resistance. The vascular structures suffer throughout, especially the arteries, from thickening and degeneration of their coats, notably of the internal, which, in addition, becomes roughened and therefore abnormally resisting to the circulating current, necessitating the expenditure of an increase of circulatory energy. The arteries also lose in elastic and contractile motor energy, and therefore not only resist the pulse wave, but do not normally supplement the cardiac and circulatory forces.

In Bright's disease the blood also, by reason of the lessened amount of food taken and the digestive and assimilative derangements that it occasions, and the further impairment of nutrition it suffers from loss of albumin on the one hand, and the undue amount of water and excrementitious substances it retains on the other, is rendered chemically and nutritively incompetent as a circulating medium for taking up and conveying adequate amounts of oxygen to the system, and for removing carbonic acid and effete excrementitious materials from it; and, naturally, general debility from impaired nutrition results. Lastly, it is not necessary to more than allude to the neurasthenia of the cerebro-spinal and the organic nerves, particularly of the vaso-motor, which constitutes a marked feature of the debility of this malady.

(To be continued.)

LOCAL TREATMENT OF SCROFULOUS GLANDS,
WITH A NOTICE OF COMPOUND SYRUP OF TRIFOLIUM AS A THERAPEUTIC AGENT.

By H. C. ROGERS, M.D.,
BROOKLYN.

All surgeons are familiar with the class of cases to which I would draw attention, and probably there are few of them who have not wished such cases removed from their care. I allude to the large number of strumous children with slowly suppurating cervical and other lymphatic glands, tedious and insidious in their course, and generally, after months and, it may be, years of suffering, ending at the best in elevated or depressed cicatrices and unsightly scars. Under the most careful and judicious treatment the surgeon is liable to bring disgust to his patient and friends and discredit on himself. The old practice by free incisions, blisters, valvular openings, and other means which were in use ten years ago, or have been introduced within that period, I have had recourse to with varying results, a few cases healing kindly, while others (the majority), in every respect favorable, have tried my skill and patience for weeks and even months.

During the past two years I have pursued one of two lines of treatment: 1. Teal's method of dissecting out the enlarged and inflamed glands and scraping old sinuses. I have resorted to this method in three cases, with results which were all that could be desired. The one objection to it is that it is quite an operation and can not be adopted without an anæsthetic. To this the parents and friends of the children frequently object, remarking that they would rather take a longer time than to have any operation performed on their little ones. 2. In the "Annals of Surgery" for December, 1885, p. 493, will be found an editorial by Dr. L. S. Pilcher reviewing an article in the "Revue de chirurgie" for May, 1885, by Professor Verneuil, of Paris, on the treatment of cold abscess by drawing off the pus and injecting an ethereal solution of iodoform.

Case I.—A short time (January 3, 1886) after reading the article referred to I was asked to see a young lady who was suffering from cervical abscess on the left side. She had had a similar abscess on the right side three years before, which had healed, but had left an unsightly scar. Her general condition at this time was poor; she was anæmic, and her occupation (that of school-teacher) kept her closely confined to the house. She told me she could not afford to lose any time, and asked if there was not some way of treating the abscess by which to avoid leaving such an ugly scar. I stated to her that I knew of no operation other than dissecting out and scraping the cavity that would give her any relief, but that I would try and devise some form of treatment whereby she would lose no time. She reported at my office the following morning, when I drew off the pus in the abscess with the finest needle in my aspirating case. After the fluid had ceased running I slowly injected 250 minims of a five-per-cent. solution of iodoform in ether. The patient complained of some heat and smarting at the commencement of the injection, but this all passed off before I had completed the operation. The small wound made by the needle was closed with collodion, and the patient was given a tonic containing arsenic, iron, and iodide of potassium.

January 5th.—Patient called at my house. The seat of yesterday's injection is quite swollen, but has lost its soreness and redness and causes her no annoyance.

6th.—Swelling much smaller, free from pain. On the opposite side, just below the old scar, I find a small enlarged gland, which feels soft in its center, but does not fluctuate. With the smallest needle I injected between 20 and 30 minims of a five-per-cent. ethereal solution of iodoform. The injection aroused some pain, which passed away in the course of an hour.

10th.—On account of death in the family the patient was called out of town, and I had not seen her for the past four days. She returned this morning, and came to the office during the afternoon. She says she has suffered no pain nor any inconvenience in or about her neck. The swelling over the site of the first operation is nearly gone, and the skin has resumed its natural color. The seat of the last injection is still quite hard, but the gland is much smaller.

April 3d.—Patient's condition good. All glandular swelling is well gone. There is no evidence on the former site of operation.

The patient passed through a moderately severe attack of typhoid fever during the autumn of 1886. She is now feeling quite well, and is able to attend to her duties as school-teacher. She has had no further trouble with the glands on her neck.

Case II.—Kate B., school-girl, aged twelve, of strumous appearance, applied to me (March, 1886) at the Long Island College Dispensary, suffering from an abscess of the cervical glands on the left side of the neck of about the size of a hen's egg. There was only slight redness of the skin, but fluctuation was well marked. By means of a fine aspirating needle I gave exit to a small quantity of thin pus. I then slowly injected into the cavity between 200 and 300 minims of a five-per-cent. ethereal solution of iodoform. She complained of some heat and pain at first, but both had entirely passed away before she left the dispensary. She was ordered arsenic, iron, and iodide of potassium.

Six days later the patient called with her mother, who stated that her daughter had been at school regularly since; had not complained of any pain. The swelling was of about half the size it was when I injected it. Over the site of the injection a small spot of induration could be felt. The mother called my attention to the child's tonsils, which were enlarged. I directed her to paint them with tincture of iron three times daily, and to keep on with the medicine. At the end of the ninth day the swelling was fully two thirds smaller; no pain, redness, or heat; appetite good; and the patient said that she felt better.

I did not see this patient again until October, 1886, when the mother called to have me attend to her son, who had received a fracture of the humerus. She said that her daughter had had no more trouble with her neck since the operation, a statement which I was able to confirm a few days later, when I had an opportunity to examine the daughter.

Case III.—July 1, 1886. Robert J., aged ten, in poor health. He had a swelling on the right side of his neck of about the size of an English walnut, bluish-red, evidently about to break. The case was an unfavorable one for injection; but, at the earnest request of the father, who had seen the effect in the first case cited above, I consented to operate. I drew off the pus, which was thin and watery, and contained small pieces of cheesy matter, and injected the cavity with a five-per-cent. ethereal solution of iodoform. The operation was performed with great care, but just before I applied the bandage I noticed a small space where the solution was oozing out. The case progressed fairly well for the next two or three days, when (July 4th) the patient went on an excursion contrary to my wishes. On the way back a severe thunder-storm broke over the grove. The party that my patient was in got thoroughly wet, and, having no means of drying themselves, had to remain in damp clothing the rest of that day (about eight hours). That night I was sent for to see my patient. When I reached the hotel where he was staying I learned that a short time before they sent for me he had had a chill, and was complaining of a severe pain and burning over the left side of his neck and face, which were much inflamed. He was ordered quinine and iron, and his face and neck were bathed with a solution of biniodide of mercury, 1 to 3,000. The following morning I found him much better, the pain and redness nearly gone. The abscess which I had injected was about the same in size, but had lost its red, angry look. At the end of three weeks the swelling was entirely gone, leaving a very trifling scar, in marked contrast with the scar on the opposite side of his neck, where he had suffered from another abscess some time before.

I have treated by the method now mentioned nine cases in all. The swelling has gradually disappeared, taking from three weeks to two months.

Professor Verneuil's plan is, first to evacuate the abscess by aspiration. To do this he makes use of a large-sized trocar, handling the parts as little as possible. As soon as the liquid becomes slightly blood-stained he injects the cavity with the solution, which is one of five per cent. The largest quantity used is one hundred grammes; generally fifty or sixty grammes suffice. The amount of iodoform remaining in the abscess cavity to be absorbed rarely exceeds four to five grammes. He has never seen any bad effects from the absorption of ether.

My experience has been that generally one injection will be sufficient. In only three cases have I found it necessary to repeat the injection into the same swelling. In four cases I injected glands where I could not find pus, but where the center of the swelling was soft and in a condition to break down. In such cases my plan is to inject from ten to twenty minims of a two-per-cent. to three-per-cent. solution. In all cases the swelling is gradually reduced, so that in from four weeks to three months it has entirely disappeared. In all my cases I have employed internal treatment, as all the patients were more or less anæmic. Up to some six months ago I had been using a tonic containing arsenic, iron, and iodide of potassium; but, on account of the difficulty apothecaries have in making up a pleasant mixture that children would take, I have had some trouble in keeping up the treatment with the regularity I would like.

About six months ago I received a sample bottle of compound syrup of trifolium, which is a mixture containing iodide of potassium, combined with the vegetable alteratives red clover, burdock-root, prickly-ash bark, stillingia, poke-root, and *Berberis aquifolium*, each ounce containing eight grains of the iodide of potassium. The skill of the manufacturers, Parke, Davis, & Co., has succeeded in so combining these drugs as to render the finished preparation very palatable—a property most essential to a preparation which is designed for prolonged administration.

I am in the habit of using the iodide of arsenic, bichloride of mercury, sulphide of calcium, or iron, with the compound syrup of trifolium. Children will take this combination for a long time and not be troubled with nausea or any derangement of the stomach. I have a patient, a child suffering from congenital syphilis, who has taken it since its first introduction, six or seven months ago. She is taking one fiftieth of a grain of bichloride in half an ounce of the compound syrup of trifolium, and has improved in every way while under its influence.

From my experience with this syrup in a great variety of cases, and from the very satisfactory results which I have obtained from its use, I am of the opinion that it is destined to occupy a high position among our therapeutic resources.

Since preparing the foregoing paper, I have learned that Professor Verneuil has substituted glycerin for ether, using fifteen to twenty grammes of iodoform in sufficient glycerin to make a thin paste.* I learn also that Professor Billroth, at his clinic, uses a solution of ten parts of iodoform to one hundred parts of glycerin, for the same purpose, and speaks very highly of it.†

Correspondence.

LETTER FROM PARIS.

The Treatment of Intestinal Obstruction.—The Green Diarrhœa of Infants; its Treatment with Lactic Acid and its Microbe.—Emulsions made with Milk Casein.

Paris, *June 3, 1887.*

What should one do when called to attend a patient who presents symptoms of intestinal obstruction? This is a question that has occupied several sittings of the *Société de chirurgie*, its consideration having been opened with a communication by Professor Verneuil. The practical conclusions that seem to have been arrived at in the discussion are about as follows: If the manifestations are not very rapid in their progress, we should first try such measures as purgatives, rectal injections, etc., as well as electricity. All these have given a certain amount of success, and they all deserve a trial at the outset, but it is not safe to persevere with them very long, as thereby we should only fatigue the intestine and be losing valuable time. It is true that M. Marc Sée has made known the case of a patient cured with rectal douches forty-five days after the onset of the obstruction, but such cases are very rare—far too rare to warrant protracted temporizing. All there is left to do when the means alluded to have failed is to resort to surgical procedures, of which there are these two: Opening the abdomen, searching for the obstruction, and relieving it; and opening the intestine above the obstruction, so as to allow of the free escape of fæces. But what are the indications for each operation? First, a division of the cases must be made into the acute and the chronic—those in which the obstruction is easy to remove and those in which we know nothing about it. When the cause is known and, like cancer of the rectum, is incurable, the formation of an artificial anus is the rule, and it may be made on the right side, as practiced by M. Le Dentu, or on the left side, in the sigmoid flexure, as advocated by Verneuil, Reclus, and others. Paris surgeons are divided into two camps—those who follow Verneuil and those who prefer Professor Trélat's methods. Trélat favors lumbar colotomy. Those of one party hold up as the advantages of inguinal colotomy the facility with which it is performed and the ease with which the artificial anus thus brought about may be kept in good condition; the others maintain that the site of the lumbar operation is better, and that it has the great advantage of not opening the peritoneal cavity. In any case, with modern antisepticism, either operation is benign, and the patient is relieved at once. M. Kirmisson gives seven recent cases, all cures, and, curious to say, the relief was immediate, occurring even before fæcal matter came away. When, on the other hand, the accidents following intestinal obstruction are acute, and when we think we know that the difficulty can be readily relieved, laparotomy is the operation indicated. Internal hernia, volvulus, etc., come under this head. It is true that this is a very serious operation, but the obstacle to the free passage of the fæces is not the only feature, the constriction of the intestine itself is the most important; besides, there are cases in which an artificial anus can be of no use whatever. Such a case was lately mentioned by Trélat, in which the trouble was a twisted intestinal coil. There are cases also in which no diagnosis is possible, and, unfortunately, they are the most numerous. In such instances M. Verneuil advises the immediate formation of an artificial anus, but M. Trélat and M. Le Fort prefer laparotomy. The opinion that seemed to prevail at the last meeting of the society was that a small opening might be made into the abdominal cavity, but that, if the cause of the obstruction was not soon discovered, it was better to proceed to enterotomy at once than to prolong the search. In this discussion, considerable attention was given to the work of American surgeons.

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* "New York Medical Journal," vol. xl, p. 596.

† *Ibid.*, vol. xli, p. 56.

Professor Hayem, who holds the chair of therapeutics at the Paris faculty, has a children's service at the St. Antoine, and there his attention was lately directed to the frequency and gravity of gastro-intestinal troubles among the little patients, for which he at first tried all the various remedies usually recommended, but without much success. He then began the use of lactic acid, and noticed that it was often followed by great benefit, but that when it was discontinued the trouble would return in some patients, and that with others, after producing the happiest results, it would suddenly cease to be of use. It was then observed that, when several children were attacked with green diarrhœa in the service, a sort of epidemic of it would break out among the greater portion of the children. Struck with the frequent repetition of this occurrence, M. Hayem began to look upon the disease as infectious, and he gave orders that strict antiseptic measures should be adopted—all the affected infants' soiled linen was to be taken from the ward at once and plunged into a large tub containing a ten-per-cent. solution of corrosive sublimate. Soon after the adoption of this system, the green diarrhœa disappeared entirely from the wards, and has not returned. In the use of lactic acid, a teaspoonful of a two-per-cent. solution was given to the infant a quarter of an hour after nursing, from five to eight teaspoonfuls being given in the course of twenty-four hours. Under this treatment, all vomiting ceased, the passages diminished in number, their greenish color turned to yellow, and a cure generally resulted in from three to five days. M. Lesage, M. Hayem's interne, then undertook a series of investigations to ascertain the cause of these troubles, and he found a certain form of bacillus agglomerated in large masses in the stools; that explained the infectiousness. M. Hayem thinks that this microbe penetrates into the stomach with the food in the ordinary way, but does not find a favorable place for its pullulation unless the gastric secretions are altered as the accompaniment of the dyspepsia, when the bacilli can pass on into the intestine without having lost their vegetative power; once in the intestine, they find a neutral or alkaline medium in which they can go on in their development. The lactic acid probably acts by increasing the acidity of the gastric juice, enough at least to produce sterilization of the germs of the bacilli; hydrochloric acid did not act so well. Probably there are other substances, such as naphthaline, iodoform, calomel, etc., that may serve as well as disinfectants or to neutralize the microbes. Professor Damaschino, through his former interne, M. Clado, professes to have discovered this special microbe some two years ago, and says that it was afterward spoken of and experimented upon in America, but M. Hayem says that nothing more was done about it, and that he did not know of these facts. At any rate, M. Lesage has gone farther, and has shown that this microbe causes green diarrhœa in children, as its introduction into the digestive tract proves.

M. Léger has made a communication to the *Société de pharmacie* that is of considerable therapeutical interest. It relates to milk casein as an emulsifying agent. Emulsions made with it seem to be much more perfect and stable than any of the preparations made with the various gums, and they have the very great advantage of being supported by the most delicate stomachs, which, as we all know, can not be said of the emulsions made with mucilages. M. Cadet de Gassicourt has tried it with children at the Trousseau, and finds that with castor-oil it forms an emulsion which the children take without the slightest disgust, and which is better tolerated than any other form. Certainly, if we can approach the natural emulsions, it is an achievement much to be desired. In milk, the oily part is held in suspension by an albuminoid—casein—which can be precipitated from it by acetic acid, so that an emulsion prepared with this substance would be a sort of milk having the butter replaced by a medicinal substance. It is well known that not only castor-oil but cod-liver oil and other oils are best tolerated in this form. To prepare milk casein, shake together four litres (about five pints) of milk and sixty grammes (about two ounces) of ammonia-water, and let the mixture stand for twenty-four hours, when it will be found to have separated into two layers, the upper one containing the oily matters, and the lower one consisting of whey. The liquid is now decanted, and crystallization is effected with acetic acid, as before mentioned. The magma is compressed, and ten grammes (about one hundred and fifty grains) of sodium bicarbonate are added. The casein dissolves, and, if a certain quantity of sugar is added, the saccharate of casein can be isolated in the form of a powder which will contain 10 per cent. of soluble casein. This keeps well, and has a slight odor like that of pastry. As to its use: emulsions of all substances that dissolve readily in alcohol—such as balsams, resins, etc.—can be made in the bottle itself, so that a physician may prescribe it by ordering the substance to be dissolved in the smallest quantity of alcohol, the saccharate of casein to be added dissolved in its weight of water, and syrup or water added as may be desired. For an emulsion of one hundred and twenty-five parts, add ten parts of the saccharate of casein. For the insoluble oils, the emulsion must be made in a mortar, the gums ordinarily used being replaced by the same quantity of the casein saccharate.

Antiseptic Dressings.—The dressings which Roser describes ("Ctrlbl. f. Chir.," 1887, No. 16) differ little from those commonly in use in the hospitals in New York. He is accustomed to cover the dressing of antiseptic absorbent mull with a thick layer of non-absorbent mull, to prevent the penetration of the secretions of a wound. When a plaster splint is placed over this, as in resections of the knee, on its removal, after ten or fourteen days, no discharge is found to have reached the plaster.

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THE THERAPEUTICAL VALUE OF BLOODLETTING.

BUT a few years ago it was customary to bleed too frequently, and almost every morbid condition was thought to demand bloodletting. Practically, we never resort to the measure now, perhaps because we do not consider to their full extent the advantages to be derived from it. From one excess we have fallen into the other. The disciples of the lancet bled according to a system; it was a formula. Their adversaries abstained by convention, not always by conviction; that, too, was a formula. There was error on either side. Therapeutical truth does not lie in a mere formula; it is to be found in facts proved clinically and experimentally, not in mere systems. It is in some such strain as this that M. Eloy calls attention, in a recent number of the "Gazette hebdomadaire de médecine et de chirurgie," to an important essay presented to the Belgian Academy by M. Fredericq, of Liège. The essay is a compendious summary of our knowledge of the physiological action of bloodletting, and embraces an attempt to establish definitely all the indications and contra-indications of this powerful therapeutical agent. Incomplete as it is, and as all such efforts must ever be, it nevertheless abounds in proofs that we ought to throw aside the prejudice occasioned by the abuse of bloodletting in the past, and once more avail ourselves of a measure capable of rendering such valuable aid. What there is still to condemn, in spite of the efforts made at times to re-establish it, is the bleeding in hæmorrhagic proportions resorted to by those enthusiasts who have been styled ironically "the great bleeders of past times."

As was said by Marshall Hall and some of his contemporaries, bleeding modifies more or less lastingly the respiration, the temperature, and the circulation, and affects the nutritive changes still more profoundly. The relaxation of the respiratory movements that occurs on opening a vein has been accounted for in many different ways. A hæmorrhage, provided it is not excessive, does not notably diminish the quantity of blood in either the general or the pulmonary circulation, the withdrawal of from half a pint to a pint causing on an average the loss of from one two-hundred-and-fortieth to one one-hundred-and-twentieth of the weight of the body. It does, however, change the functional relation between the lungs and the heart, as has been proved by the elaborate researches of Embrodt and more recently those of Fredericq. The last-named observer has shown that a fall of pressure amounting to the relation of 1 to 2, or even 1 to 3, takes place after a loss of blood hardly equivalent to one one-hundredth of the weight of the animal; and Arloing and Vinay have not only confirmed this, but have proved in addition the permanence of the effect, as shown by the persistence of this lowered tension after the closure of the vessel.

As regards the influence of bloodletting on the temperature, putting aside the incontestable fact that great hæmorrhages produce a very considerable lessening of the heat of the body, we have Heidenhain's demonstration that the fall and rise of the thermometric column are synchronous with the corresponding changes in the mercury of the hæmodynamometer. A plausible deduction from this would be that bloodletting is justifiable in sthenic inflammations attended with hyperpyrexia, but a little reflection will show that it is not a deduction fully borne out. What we have most to fear from fever is its pernicious effect on nutrition, but bleeding also deprives the body of its tissue-forming elements; hence the ultimate results of both are the same. As has been said by Lorain, the fall of temperature following hæmorrhage is only temporary; it is a mere peripheral cooling. A remedy truly worthy to be called antipyretic, however, should be capable of affecting the heat-producing function, not merely the axillary, vaginal, rectal, or buccal temperature—since the danger of the hyperpyrexia does not lie so much in the high temperature *per se* as in the nutritive changes of which it is merely the outward expression.

Bleeding modifies respiration. Is it indicated in pulmonary affections? Depletive bleeding should, according to the theory of those who employ it, diminish the initial hyperæmia of inflammation of the lungs by enabling the pulmonary to profit by a lessening of the general circulation—a bald hope, in the face of the fact, experimentally proved, that bleeding, within therapeutic limits, does not sensibly lessen the quantity of the blood. On this assumption, nevertheless, rests M. Bucquoy's recommendation to bleed in the initial stage of pericarditis accompanied by grave phenomena—always, however, on the condition of its early employment in sufficient abundance. the fact being at the same time borne in mind of the danger incurred by the inherent feebleness of the cardiac muscle in this disease. On the same ground, too, M. Peter advises bleeding in cerebral congestion in robust and vigorous individuals, and M. Bouveret insists on the good results to be obtained by bleeding in capillary bronchitis and in emphysema. If we take this view, we can readily appreciate the value of bloodletting in the treatment of cardiac affections; indeed, the results obtained with it by some modern clinicians, such as Bucquoy, Jaccoud, Peter, Henri Huchard, and others, have at times resembled resurrections. In cardiac affections accompanied by extreme feebleness of the heart's action, bloodletting enables us to relieve the organ of a surcharge of blood exceeding its motive power. It is thus, as has been shown by Huchard, in the "Union médicale," that digitalis finds its full action when its administration has been preceded by copious bleeding; the aim being to diminish the resistance of the peripheral portion of the circulatory apparatus and the embarrassment of the right heart. It re-establishes the equilibrium between the motive power and the mass to be moved. The therapeutic action of heart tonics consists in augmenting the contractile force of the heart and in reducing the volume of the blood by setting up diuresis. Drastics accomplish the latter part by increasing the intestinal secretion; bloodletting does it in a more direct way. Its employment is therefore rational in the treatment of cardiac affections accompanied by insufficient contractions of the heart; and, according to Bucquoy, it is never in this way the cause of anæmia or of irremediable cachexia.

What are the indications for bloodletting in over-action of the heart? In these cases, the heart's action surpasses its aim; the vascular pressure is augmented, and the patient is in danger of congestion, cerebral or pulmonary. The indications are to re-establish the circulatory equipoise. A vein is opened, and the symptoms are mitigated, to return after the renewed filling of the vessels by interstitial absorption. Shall we repeat the bleeding? Yes, if the general nutrition permits, and if other remedies fail. There is another class of cases—affections of the aorta, including aortitis and aneurysm—in which excessive vascular tension plays a part. Here conservatism is demanded, but there is no particular stage when the measure is specially applicable.

To sum up: Bloodletting should not fall into utter disuse. Weighty accusations have been brought against it, but let us allow only what is confirmed by modern scientific research—namely, its powerlessness in inflammations and in fevers, its dangers in chronic affections, and the obscure rôle it plays in neuroses and in eclampsia; while physiology, in spite of its gaps, teaches the therapeutist that the blood is always being renewed, that the stability of the circulation is not hindered by a moderate bloodletting, and that, although a powerful modifier of the circulatory equilibrium, this agent has no other dangers than those that arise from its over-abundant employment, its excessive repetition, and its inopportune use. Physiology teaches us also that the philosophy of this therapeutical measure, around which too much majesty and solemnity have gathered, is found not in systems, but in the modest aphorism: "Use, do not abuse!"

MINOR PARAGRAPHS.

THE INFLUENCE OF THE BERGEON TREATMENT ON THE INFECTIOUSNESS OF PHTHISIS.

At the recent *Congrès des délégués des sociétés savantes*, as we learn from our Paris correspondent, M. Lamallerée, after giving it as his opinion that the Bergeon method of treatment was inefficient in the cavernous stage of phthisis, although very useful in other stages, made the important statement that, whereas he had succeeded in communicating tuberculosis to chickens by making them swallow the sputa of phthisical patients, he had not been able to infect them when he used sputa from persons who were under the Bergeon treatment at the time.

THE INCUBATION OF RABIES.

Dr. G. Schlemmer has furnished the "Union médicale" with an abstract of an article contributed by Dr. Bauer to the "Münchener medicinische Wochenschrift" giving an analysis of 510 cases of rabies, with special reference to the duration of the period of incubation. It was from 1 day to 19 days in 8·24 per cent., from 20 to 39 days in 28·43 per cent., from 40 to 59 in 21·17 per cent., from 60 to 79 in 15·30 per cent., from 80 to 99 in 9·22 per cent., from 100 to 149 in 7·65 per cent., from 150 to 199 in 5·69 per cent., from 200 to 249 in 0·98 per cent., from 250 to 330 in 2·35 per cent., and from 370 to 460 in 1·18 per cent. The mean duration was 80 days in men, 65 in women, and 37 in children. That of multiple wounds and wounds of the head was 55 days; that of wounds of the lower limbs, 74 days; and that of wounds of the upper limbs, 81·5 days. That of wolf-bites was 39 days; that of dog-bites, 73·5 days; and that of cat-bites, 80 days.

THE KENTUCKY STATE MEDICAL SOCIETY.

At the thirty-second annual meeting, lately held in Paducah, a number of practical papers were read, there was a satisfactory attendance, and twenty-one new members were elected. It appears that one of the members, Dr. Dudley S. Reynolds, a gentleman who is widely known and esteemed in the profession, had shortly before been subjected to a public attack upon his personal and professional character; and it is gratifying to observe that one of the acts of the meeting was the passage of certain resolutions, offered by Dr. McMurtrie, testifying to Dr. Reynolds's high professional and social standing and to the fact of his having ranked for fifteen years among the society's foremost members. The annual address by the president, Dr. W. M. Wathen, was a learned and judicious exposition of the true status of specialism in medical study and practice.

A COMMUNITY OF SPITTERS.

More and more do the streets of New York flow, not with blood, but with saliva. Its ejaculation, variously tinctured with tobacco, etc., seems to be a favorite manifestation of vulgarity and offensiveness. In a memorial lately addressed to the mayor by the Ladies' Health Protective Association—a document that has already borne fruit in the matter of garbage collection—it is modestly asked if it would be objectionable for the association to place signs about the city "requesting the avoidance of expectoration on the sidewalks." We do not know what answer Mr. Hewitt made to the question, or whether he made any, but we earnestly hope that this characteristic American nuisance may be mitigated in some way.

BUCK TAYLOR'S BROKEN THIGH.

Buck Taylor is attracting attention in London at the present time, not only from his being the "King of the Cowboys" and, as the "British Medical Journal" says, an "unsophisticated child of nature," but also by reason of his having recently sustained a fracture of the femur of a character that, as described in the journal mentioned, is noteworthy from several points of view. It was caused by direct violence, and that not severe enough to injure the soft parts, and is completely transverse, so that the shortening is as trifling as that which follows Macewen's operation. It is interesting to learn, too, that, together with the use of a long splint and weight-and-pulley extension, "a kettle-holder splint was fitted to the anterior aspect of the thigh."

THE AMERICAN ORTHOPÆDIC ASSOCIATION.

It will be seen by the summary of the proceedings of the first annual meeting of this new society, which we give in this number of the Journal, that it has begun under favorable auspices a career which we hope will be long and successful. Orthopædics is one of the branches in which American surgeons have won distinction, and the statement was made at the association's dinner that the elder Sayre, who was present, had been the first to hold a professorship in that branch. This is not only creditable to him and to the college in which he holds the chair, but no inconsiderable earnest of the prosperity and usefulness of an organization in which he takes part. It was made to appear very plainly that the assembled orthopædists did not look upon their art as limited or primarily devoted to the devising of apparatus, but as the application of every medical and surgical resource to the prevention and correction of deformities. So broad a view having been taken at the start, it is difficult to see that the new society is not destined to become a most efficient one.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 21, 1887:

DISEASES.	Week ending June 14.		Week ending June 21.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	9	4	3	3
Scarlet fever	55	13	63	11
Cerebro-spinal meningitis	10	10	6	7
Measles	31	3	37	5
Diphtheria	91	37	136	53
Small-pox	6	2	3	2

The Health of New York City.—During the six months ending Tuesday, June 21st, there were reported to the Sanitary Bureau of the Fourth Division of the Health Department 229 cases of typhoid fever and 97 deaths; 1,355 cases of scarlet fever and 267 deaths; 116 cases of cerebro-spinal meningitis and 108 deaths; 5,998 cases of measles and 747 deaths; 2,666 cases of diphtheria and 1,124 deaths; 271 cases of small-pox and 73 deaths; and 2 cases of typhus.

The New York Post-graduate Medical School and Hospital.—Dr. Seneca D. Powell has been elected professor of clinical surgery in the school.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 5, 1887, to June 18, 1887:*

Fryer, B. E., Major and Surgeon. Granted sick leave for one month. S. O. 28, current series, Division of the Pacific, amended by S. O. 29, Division of the Pacific, June 2, 1887.

Tremaine, W. S., Major and Surgeon. Sick leave still further extended two months on account of sickness. S. O. 129, A. G. O., June 6, 1887.

Appel, A. H., Captain and Assistant Surgeon. Granted leave of absence, on surgeon's certificate of disability, six months. S. O. 127, A. G. O., June 3, 1887.

Baxter, J. H., Colonel and Chief Medical Purveyor. To proceed to New York city for the purpose of inspecting the medical purveying depot at that place. S. O. 133, A. G. O., June 10, 1887.

Par. 15, S. O. 52, A. G. O., March 5, 1887, is so amended by Par. 9, S. O. 133, A. G. O., June 10, 1887, as to direct that Charles H. Alden, Major and Surgeon, be relieved from duty in the Department of Dakota about June 20, 1887, and he is granted leave of absence from the date when so relieved, to include August 27, 1887.

Fryer, B. E., Major and Surgeon. Found incapacitated for active service by an Army Retiring Board, and granted leave of absence until further orders on account of disability. S. O. 133, A. G. O., June 10, 1887.

Hall, John D., Captain and Assistant Surgeon. Leave of absence extended one month. S. O. 136, A. G. O., June 14, 1887.

Borden, W. C., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month. S. O. 138, A. G. O., June 16, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending June 18, 1887:*

Bransford, John F., Surgeon. Ordered to the Smithsonian Institution at Washington, D. C.

Tryon, J. Rufus, Surgeon. Detached from the U. S. Steamer Quinnebaug, and ordered home.

Siegfried, Charles A., Surgeon. Ordered to the U. S. Steamer Quinnebaug.

Martin, William, Assistant Surgeon. Detached from the U. S. Steamer Pinta, and ordered home.

Fitts, Henry B., Passed Assistant Surgeon. Detached from the Receiving-ship Vermont, and ordered to the U. S. Steamer Pinta.

Field, James G., Assistant Surgeon. Ordered to the Receiving-ship Vermont.

Van Reypen, W. K., Surgeon. Ordered June 8th for examination preliminary to promotion as Medical Inspector.

Robinson, Somerset, Medical Inspector. Ordered June 20th before a Retiring Board convened at Mare Island, Cal.

Walton, Thomas C., Surgeon. Ordered June 15th for examination preliminary to promotion as Medical Inspector.

Price, A. F., Surgeon. Detached from medical duty, Annapolis, Md., and to proceed home and wait orders.

Flint, James M., Surgeon. Detached from the Albatross and ordered to the Smithsonian Institution.

Willson, W. G. G., Passed Assistant Surgeon. Ordered to the Receiving-ship Independence, Mare Island, Cal.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the three weeks ending June 18, 1887:*

Goldsborough, C. B., Surgeon. Detailed to represent the service at the meeting of the American Medical Association at Chicago, Ill., June 6, 1887. June 1, 1887.

Banks, C. E., Passed Assistant Surgeon. When relieved, to rejoin station at Boston, Mass. May 23, 1887.

Norman, Seaton, Assistant Surgeon. When relieved, to rejoin station at Cape Charles, Quarantine. May 26, 1887.

Bratton, W. D., Assistant Surgeon. To proceed to Seattle, W. T., on special duty. June 8, 1887. When relieved, to rejoin station at San Francisco, Cal. June 11, 1887.

Watkins, R. B., Assistant Surgeon. Granted leave of absence for thirty days. June 8, 1887.

Heath, F. C., Assistant Surgeon. To proceed to Marine Hospital, Detroit, Mich., for temporary duty. June 17, 1887.

Society Meetings for the Coming Week:

Monday, *June 27th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Cambridge, Mass., Society for Medical Improvement.

Tuesday, *June 28th:* New York Academy of Medicine (Section in Laryngology and Rhinology); Buffalo, N. Y., Obstetrical Society (private); Medical Societies of the Counties of Essex (annual—Elizabethtown) and Lewis (annual), N. Y.

Wednesday, *June 29th:* Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield).

THURSDAY, *June 30th:* Cumberland, Me., County Medical Society (Portland).

SATURDAY, *July 2d:* Clinical Society of the New York Post-graduate Medical School and Hospital; Miller's River, Mass., Medical Society.

OBITUARY NOTES.

Woolsey Johnson, M. D., one of the physicians to the New York Hospital and a member of the City Board of Health, died on Tuesday, the 21st instant, after a lingering illness, in the forty-sixth year of his age. The deceased was a graduate of the College of Physicians and Surgeons of the class of 1863. He was a native of Stratford, Conn., at which place his remains have been interred. Dr. Johnson was an exceedingly amiable man and very popular socially—so popular, in fact, that it is highly to his credit that he continued to devote himself to his professional work.

Proceedings of Societies.

AMERICAN ORTHOPÆDIC ASSOCIATION.

First Annual Meeting, held in New York, June 15 and 16, 1887.

DR. VIRGIL P. GIBNEY, of New York, was elected temporary chairman, and Dr. LEWIS HALL SAYRE, of New York, temporary secretary.

Hypertrophic Elongation and Enlargement of the Lower Extremity.—Dr. PACKARD, of Hartford, read the history of a case of enlargement and elongation of one lower extremity in a boy whom he first saw six years ago. There was a family history of phthisis, but no evidence of syphilis in the parents or child. At this time the affected leg was three fourths of an inch longer than the other. The hypertrophic condition seemed to involve all the tissues of the limb, and extended a little distance up on the body. The skin, however, appeared normal. The motions of the limb were natural. The speaker applied a rubber bandage, but the limb continued to develop in length and size, and at a recent date it was three inches longer than the other limb, the thigh two inches larger than its fellow, and the calf an inch and a half larger than its fellow. Lately the patient was seen in consultation by Dr. Gibney. Amputation of the affected member, taking off fourteen inches below the knee, was performed on account of the disparity in the length of the limbs. The points of interest as distinguishing the case from those of elephantiasis seemed to be the length of the limb and the comparatively healthy condition of the skin.

Dr. MORTON, of Philadelphia, had seen one case similar to that described by Dr. Packard, excepting that there was not so much increase in the length of the limb. He thought it would be well to cut off the nutrition of the limb, and with that object in view stretched the sciatic nerve. The limb grew pale, and diminished much in size. He had been led to adopt this procedure from experience in two cases of elephantiasis of the leg, in one of which he took out a piece of the sciatic nerve, and in the other simply divided the nerve, with the result of diminution in the size of the leg. He thought the stretching operation should be preferred, as it did not entirely destroy the function of the member.

Instruments for the Forcible Correction of Club-foot.—Dr. MORTON made some general remarks upon club-foot, and presented two instruments for the correction of the deformity by mechanical force. There were few cases of congenital club-foot which, if seen very early, could not be corrected by manipulation without apparatus. But when the condition occurred in robust children from eight to fourteen years of age, we might have to resort to severer methods. Even the division of tendons might not be sufficient. At any rate, subsequent constant manual or instrumental effort might be required to prevent recurrence of the deformity. Much more could be done, and in a much shorter time, by an apparatus which he had employed a number of years, consisting of a block of wood for a foot-rest, braces, leather girdles, and screws by which the foot could be forced into the desired position. In the adult, for instance, the tarsus was exceedingly unyielding, and it was almost impossible to bring the foot into position without an operation on the tarsus; but, since the introduction of perfected antiseptic methods, excision of the bones was preferable in adults, as it enabled one to accomplish in a short time what other methods could do only after months. In certain cases, however, he had resorted to a second instrument which he presented, with which great force could be exerted upon the tarsus by means of a screw, breaking the foot into position. The foot could be brought into exaggerated correction, resolving an equino-varus into an equino-valgus. Photographs illustrating the excellent results from excision of the tarsus were shown. Every tendon or band which interfered with the proper rectification of the foot should be divided; then the foot should be placed in one or the other of the apparatuses shown, and forced into position at one sitting. Afterward it should be put into a carefully fitted tin splint.

Dr. SHAFFER, of New York, had many years ago felt very much as Dr. Morton did regarding the inveterate character of certain cases of club-foot, but he was becoming more and more surprised every day at the adaptability of traction to the very class of cases described by the author. Not that every case which came under his care was cured by traction, but the large majority were, quite a number of them being cases in which other surgeons had deemed tenotomy or osteotomy necessary. He maintained that the apparent loss of time was more than compensated for by the symmetry and functional capacity of the foot which followed traction treatment. It was remarkable to what a degree the contracted tissues became elongated under persistent traction force.

Division of the Tendo Achillis in Club-foot.—Dr. L. H. SAYRE presented a boy whose tendo Achillis he had recently divided for talipes equinus, with the result of being able to bring the foot fully to a right angle. He first saw the patient four years ago, when, as a result of infantile paralysis, there was extension of the foot, from loss of power in the anterior group of muscles. He saw him again two years ago, when the tendo Achillis was contracted, and advised division of the tendon and the plantar fascia, but it was not permitted. Afterward the patient was treated about seven months by traction apparatus at the hands of another surgeon, but unsuccessfully. Three weeks ago the speaker divided the tendon and the plantar fascia, and now the boy could flex the foot to a right angle. The tendo Achillis had united.

Dr. STILLMAN, of New York, spoke of the preparatory treatment of club-foot. He softened the parts by applying a thick poultice, composed of bran and marsh-mallow; this rendered both the immediate and the after-treatment much easier. The operative treatment was less important than the after-treatment. Formerly he had held the view that every case of club-foot could be cured by mechanical means, but he had changed his opinion. Certain cases could not be cured by any amount of stretching.

Chronic Osteitis of the Shoulder Joint.—Dr. GIBNEY presented two young women, and gave their further history since presenting them at the Orthopædic Section of the Academy of Medicine in 1886. In the first, since 1886, an abscess near the axilla, which had been several months in forming, finally opened spontaneously. It continued to discharge two or three months, and then closed. This patient had improved decidedly during the past year; the affected arm and shoulder had increased in size and become fairly mobile, constituting a useful member. In the second case, in which *brisement forcé* had been formerly employed, the further history was that a small abscess had formed, and the pus had been withdrawn. The arm had continued to atrophy, and there was now a very marked difference between the two members.

Dr. Ridlon related the case of a girl whom he had treated about two years for ankle-joint disease. When she had about recovered, disease appeared at the shoulder joint. He became convinced that hereditary syphilis had something to do with it, and rubbed in blue ointment, and eight months later the shoulder, which had been immovable and to some extent atrophied, admitted of considerable motion.

Pott's Disease.—Dr. H. L. Taylor related a case of Pott's disease, the interesting points in which were extreme lateral distortion at two points, and prompt rectification by giving antero-posterior support.

Remarks upon the case, relating to the question of the diagnosis of Pott's disease at a time when marked lateral deformity was the principal symptom, and to the decided benefit derived from an antero-posterior support, were made by Dr. Ridlon, Dr. Ketch, Dr. Shaffer, Dr. Stillman, and Dr. Hodgen.

An Ischiadic Crutch.—Dr. Judson, of New York, presented an inexpensive ischiadic crutch, for use in cases of disease of the knee or ankle joint, or conditions in which otherwise an axillary crutch would be required.

On Tying the Tibia and Femur together in Excision of the Knee.—Dr. Morton made some remarks upon the use of the largest catgut ligature for tying the femur and tibia together in excision of the knee. He had employed this method in several cases, and had found that union resulted much more quickly than when the limb was put up simply in a fracture-box or plaster-of-Paris dressing. The surfaces were much more closely approximated, favoring early union. To hold the knee rigid it was necessary, further, only to apply a posterior splint and a bandage. Pain, delayed union, suppuration, and high temperature, which often followed exsection of the knee joint, were avoided by this method. He had also applied this principle to fracture of the patella. Three or four days after the fracture he drilled holes through the separated pieces, and drew them together by means of catgut. No other treatment was necessary. In this connection he made some remarks upon one cause of non-union in fracture of the patella—namely, the intervention of fragments of the tendon between the bony surfaces.

Dr. Shaffer referred to a case in which, some time after excision of the knee, increasing deformity at that joint took place. It was difficult to decide whether there had been imperfect coaptation of the parts, or whether some of the diseased tissue had been left. Careful examination revealed slight motion in the joint.

A Plantar Spring for Flat-foot.—Dr. Roberts, of Philadelphia, presented a plantar spring for use in flat-foot, which was a modification by Mr. Lee of the plantar spring devised by Dr. Knight. In addition to the spring corresponding to the arch of the foot, the instrument turned upward at its inner border, presenting flange-like projections, to prevent the rotation of the foot inward. The weight of the body coming upon this spring, the normal rhythm of walking was permitted, during which successive concussions took place upon the os calcis, the fifth metatarsal bone, and the first metatarsal bone.

Dr. Ketch had used this instrument, and said that one advantage which it possessed over similar instruments was that it could be taken out of one shoe and readily placed in another.

Dr. Shaffer had noticed in a number of cases of flat-foot, or non-deforming club-foot, that there was shortening of the gastrocnemius muscle, and it had been a question in his mind whether this shortening had occurred first, or whether it had followed a giving way of the plantar arch. He was disposed to think that this shortening of the gastrocnemius, in lifting the os calcis from the ground, assisted in the development of flat-foot, for the weight was thrown upon the metatarsus. There was increased antero-posterior mobility at the metatarsal joint, with limited motion of the os calcis in a direction downward and forward. He thought that recovery was much enhanced by division of the tendo Achillis.

Dr. L. H. Sayre related a case seeming to support Dr. Shaffer's view, and Dr. Stillman described his method of treating flat-foot, which seemed also to owe its advantages partly to the fact that during the treatment tension was made upon the gastrocnemius.

Dr. Roberts had seen a considerable number of cases of flat-foot, but in none had he observed marked shortening of the tendo Achillis. Nor was this deformity of the plantar arch encouraged by the abominable fashion among ladies of wearing high heels, which tended to shorten the tendon.

Dr. Gibney remembered having read an article in the "Lancet" within a year, in which the writer advocated raising the heel for the cure of flat-foot, and said that ballet dancers, who had shortening of the gastrocnemii, had anything else than flat-foot. The speaker had had one or two young lady patients study the ballet somewhat, and they had not been under the necessity of wearing the spring for flat-foot.

Hip-joint Disease persisting after Apparent Cure.—Dr. Bradford, of Boston, gave the history of a case of hip-joint disease. The patient had been considered well for six years, the only evidence of the old disease being ankylosis of the joint. He then died of tetanus, and at the autopsy caries of the acetabulum and an inflammatory deposit in the pelvis were found. There was a small sequestrum on the head of the femur, but the head had become solidified and was strong, so that the patient had been able to walk well with a stiff joint.

Excision of the Hip Joint.—Dr. L. H. Sayre related the history of a case of hip-joint disease in a boy twelve years of age, who, two years before he excised the joint, had consulted Dr. H. L. Taylor for supposed disease of the hip joint. Dr. Sayre operated in February last, first making an exploratory incision over a fluctuating tumor in the gluteal region. He thought the abscess was connected with disease of the ilium, and that the joint was not implicated. The difficulty in diagnosis was not cleared up after letting out the pus until, on manipulation, gelatiniform material exuded, which he always regarded as evidence of implication of the joint. Disease of the femur and acetabulum was found, and excision was performed. He thought the case was in line with that presented by Dr. Bradford, going to show that hip-joint disease might be present a long time after an apparent cure. The patient had done well since the operation. The boy's sister thought he had always walked as if he had a wooden leg.

Dr. Shaffer thought that the propriety of resorting to excision in disease of the hip joint in cases presumably calling for it was less evident than in disease of the knee joint and other joints where excision was really practicable. Scraping of the acetabulum was not really excision.

Dr. Bradford said that it was not customary to perform complete excision of the hip joint in this country, but that he had seen it done in Europe.

Two Cases of Pott's Disease in Children; Difficulty of Precise Diagnosis.—Dr. Ridlon recited the history of the two cases, which during the first months pointed to disease of the vertebræ in the cervical region, although no knuckle had yet appeared; but after eight months' treatment in one case and five months' treatment in the other, the error in locating the disease became apparent; the vertebræ really affected were the first dorsal.

Dr. Ketch referred to similar cases.

The Treatment of Psoas Abscess from Caries of the Spine.—Dr. Hodgen, of St. Louis, gave the history of five cases of psoas abscess consequent on caries of the spine, treated by early aspiration of the abscess. The treatment, although not new, had not, he thought, received the attention it merited. The three methods of treating such abscesses were: The expectant, the operative with drainage, and aspiration as soon as the diagnosis of vertebral disease could be made and the presence of pus detected. The objections to allowing the abscess to take care of itself were that there was destruction of tissue, that there was interference with function, and that there was inconvenience if not pain to the patient. The uncertainty as to where the abscess would burrow was also an objection to the expectant plan; it might burrow under Poupart's ligament, or point in the gluteal region and do no harm, yet it might enter the bladder or the intestine. In one of his cases he believed it had opened into the hip joint of the same side with the abscess. In each of his five cases the result, after from two to five aspirations, had been good. No evidence was left of there ever having been psoas abscess. He would not aspirate more than four, five, or seven times; after that he would put on the plaster-of-Paris jacket and let the abscess alone.

Dr. Shaffer said that Dr. Hodgen's results with aspiration had been much better than his own. In many cases he had found that repeated aspiration resulted in the withdrawal of but a small quantity of the pus. He had seen several cases of rupture into the rectum, and if he could have his choice he would always let the abscess open into the rectum. A valvular opening formed, and bad results had not followed. He also had seen several cases in which the abscess had opened into the bladder without serious results.

Dr. Ridlon had had an extensive experience with such abscesses. He had repeatedly seen large abscesses dry up without any known cause. He believed in letting the abscesses alone. The fact that they might dry up after aspiration did not prove that aspiration was the cause of it.

Dr. Ketch said that Dr. Ridlon's remarks were in accord with those of the orthopædic surgeons of New York, as shown in a recent discussion on the treatment of abscess connected with hip-joint disease. The two conditions were similar, and the speakers then generally held that the non-interference plan was the best. On the contrary, the general surgeons present had advocated active procedures. What had struck the speaker was the fact that patients with abscess connected with joint or spine disease did much better when wearing a comprehensive support than without it; the abscess seemed to pursue a much more benign course.

An Antero-posterior Splint for Pott's Disease was presented by Dr. H. L. Taylor. It was a modification of the old Taylor splint, and had been used with satisfaction for ten years.

An Abduction Apparatus.—Dr. Taylor also presented an instrument intended to overcome adduction from false ankylosis in hip disease, or adduction resulting from old dislocation. An abduction force could be applied which was absolutely irresistible. It was surprising to see how much corrective force the patient could bear without much discomfort. Adduction of the most rigid character had given way under it in one or two days. Afterward a retentive apparatus was applied.

Constant Traction with the Long Hip Splint.—Dr. Ketch presented a simple apparatus for producing constant traction by the long hip splint, which, as ordinarily worn, exerted intermittent traction.

A Round-shoulder Apparatus.—Dr. Stillman presented an apparatus for correcting round shoulders. The general principle, that of a V-lever, could be applied in connection with the use of ordinary braces for the correction of various deformities.

Osteoclasis.—Dr. Dillon Brown presented a lad on whom he had performed osteoclasis. There was a very marked anterior curve, which some surgeons thought made the osteoclast inapplicable. This was the only case out of a series of fifteen in which there had been any return of the deformity, although all the limbs had been kept in plaster for only six weeks, and then allowed to go without a support. Photographs were presented.

Psoas Abscess.—Dr. Bradford gave the histories of five cases in which he had performed Koenig's operation, cutting down and removing caseous matter and fragments of sequestra. All the patients had done well. When there was a large collection of pus which could not be absorbed, he thought an incision should be made, and the abscess drained thoroughly. He related a case of double iliac abscess so treated.

Torticollis due to an Anomaly of Vision.—Dr. Bradford related the case of a boy, twelve years of age, referred to him on account of supposed torticollis. On examination, he found none of the muscles contracted, and no apparent reason for the boy's carrying his head on one side. It was observed that in order to secure binocular vision he had to turn his head to one side in the position of one having torticollis. An oculist to whom he had sent the patient thought he would be able to cure him.

An Abduction Apparatus.—Dr. Knickerbocker gave an illustration of a means of overcoming adduction in hip disorders.

Officers were elected as follows: President, Dr. Newton M. Shaffer, of New York; vice-presidents, Dr. E. H. Bradford, of Boston, and Dr. A. S. Roberts, of Philadelphia; secretary and treasurer, Dr. L. H. Sayre, of New York; corresponding secretary, Dr. Samuel Ketch, of New York.

The time and place of meeting in 1888 were left with the Executive Committee.

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of May 7, 1887.

Dr. Charles H. Brown, Chairman.

Indications and Contra-indications for Laparotomy.—Dr. J. R. Nilsen read a paper with this title. [To be published hereafter.]

Insanity and Oophorectomy.—Dr. W. M. Leszynsky read a paper on this subject. [See page 707.]

The Chairman had seen the last case twenty-four hours after the operation. The patient had then been bright and apparently relieved of her mental disorder, and she had remained thus for a week. It might be urged in excuse for this operation that both the ovaries and tubes were diseased, and that the woman had suffered agony during her menstrual periods.

Dr. R. W. **Wilcox** felt obliged to Dr. Nilsen for his frank and manly statement of his views. The cases reported by Dr. Nilsen and Dr. Leszynsky could be reproduced by almost any one who had watched the results of laparotomies during the last few years. One operator had recently stated that he had removed the ovaries from 74 patients during the last four years. It would be difficult to find in New York the surgeon who would own to having removed the testicles from 74 men during the same period. The speaker had during his service examined every specimen obtained by abdominal section both macroscopically and microscopically, and he had a jar of ovaries removed as cystic in which he could find nothing abnormal. Since removal of the tubes had been begun he had examined specimens of these also, and had found the cilia not only undisturbed, but often even in motion where the diagnosis of catarrhal salpingitis had been made. In laparotomy the word cure had assumed a new meaning; it meant leaving the surgeon's hands alive, nothing more nor less. The patient was entered in the case-book as cured, but if followed up would probably be found suffering just as before. Very recently an important paper was read before the Academy of Medicine upon this persistence of pain after abdominal operations. The question as to what was right in relation to the patient had been here further complicated by the question, What was it right to teach in this connection? The speaker was not afraid that any of the sound-headed men who formed the classes in the Post-graduate College would be misled by the journals of the day and imagine that they could open the abdomen as they would a pocket—the "if you don't know what you have, open and find out" sentiment—but there were those who could be thus misled. Public and emphatic disapproval was called for.

Dr. **Hanks** was pleased to have heard the paper and the remarks. All such discussion must be beneficial. Laparotomy should unquestionably be performed for all large and small ovarian cysts, and probably tubal cysts, although it was possible sometimes to draw off the contents of a tubal cyst through the vagina, and in such a manner that it would not return. All ovarian cysts, however, tended to grow, and, especially where a twisted pedicle occurred and peritonitis was threatened, an operation was necessary. In the case operated upon the day of the meeting there had been every evidence of threatened dissolution. The patient, sent from the country the day before, had been seen by Dr. Nilsen and himself, and it had been apparent that she had an abdominal tumor which threatened life. She had failed markedly during the last two weeks. On opening the abdomen, it was supposed that the cyst was twisted upon its pedicle on account of its dark appearance, but this proved to be due to the mixture of its own fluid with blood. The tumor had doubled in size during the fortnight. There was also no question in regard to operation in recurring pyosalpinx, in bleeding fibroid, nor in painful fibroid, in the speaker's opinion. Indications in regard to laparotomy for nephritic, splenic, and hepatic diseases were all thoroughly understood. In referring to the contra-indications, he was glad that Dr. Nilsen had taken such decided ground. Surgeons should take no one's statement that everything had been previously done. The speaker would never operate solely because some one else had told him that an operation was necessary. If even that most conservative and best of physicians, Dr. T. A. Emmet, should give him this assurance, still he would not depend upon it, but would himself question the patient, and take the evidence of his fingers. Many times an operation was done too quickly because some one else had considered that nothing more could be done. In regard to Dr. Leszynsky's cases, he believed that Mr. Tait had come to the same conclusion as to the futility of removing the ovaries for insanity or epilepsy. He recalled a case in which the patient had been epileptic since infancy, in which an operation had been performed, but, of course, without relief. In the report it had been said that one ovary was badly diseased.

Dr. **Currier** referred to a very suggestive editorial in the "New York Medical Journal" in regard to this furor for operations. The assistant of the late lamented Schröder, commenting upon a series of 16 hysterectomies, had stated that 5 of these only had been done for cancer, and the remainder for endometritis, retroflexion, and other minor affections. Both the critic of the first article and the editor of the "Journal" had expressed a disapproval which could be equally well applied to the rage for abdominal section at the present time. Undoubtedly many cases demanded laparotomy, but these cases should first have been carefully and conscientiously treated whenever possible by other and simpler means. Laparotomy must always be a capital operation. This surgeon or the other might reduce his mortality to five per cent. or even lower, still there was the chance that the patient would die from the operation. The utmost conservatism was therefore justifiable. In the main the speaker agreed with the paper of the evening, but from one suggestion he would venture to dissent. He did not think laparotomy justifiable for such a condition as retroflexion. Where the uterus could not be lifted from the vagina, it must be so bound down that laparotomy also would fail. He knew that Kelly, of Philadelphia, had in obstinate retroflexions attached the uterus to the abdominal wall, but he scarcely thought that this procedure would come into general use. Insanity *per se* was not an indication for operation. The center of the organism was not in the ovaries and not in the tubes; the removal of these could not be expected to relieve affections of the central nervous system. He would not agree, however, with the speaker who had argued that similar rules applied to operations upon the ovaries and to operations upon the analogous organs in the male. These organs were external and very susceptible to treatment, while the ovaries were not. Among the contra-indications for laparotomy might be added morbid conditions in the liver. Through Dr. Porter he had become convinced that where there was decided degeneration of the liver an operation was often unsuccessful. The condition of the liver should therefore receive consideration.

Dr. **Porter** stated that, while he could not be called a laparotomist, he was in the habit of opening abdomens after the surgeons had got through with them, and he believed that the success of an operation was largely dependent upon the condition of the liver. In fifteen or twenty surgical cases which had ended fatally after the operation, he had found either interlobular or intralobular disease, or else fatty degeneration. Where the conjunctiva was colored and there was a muddy complexion, with a small quantity of urine loaded with urates or uric acid, the case was apt to progress badly. He believed further that this condition of the liver had a great deal to do with the symptoms for which the operation was performed. He recalled the case of a young woman having persistent pain in the back and in the region of the ovaries and also scalding urine. Examination had shown the liver and the kidneys inactive, the patient passing but twelve ounces of urine in twenty-four hours, heavily loaded with uric acid. Leaving the uterus and ovaries alone, he had directed his treatment to this condition, and to-day the patient was passing from fifty to sixty ounces and was excreting urea instead of uric acid, and her pains had disappeared. He would also like to ask what constituted a diseased ovary. If cystic and fibroid changes could be so denominated, then every woman who had menstruated had diseased ovaries, because these changes were inseparable from the physiological hæmorrhage and repair. During the past ten years he had examined many specimens of ovaries—those taken from the child of five weeks to those from the woman of eighty or ninety years of age—and he had never seen an ovary which was not cystic. In his opinion, an operation was not indicated except where the cyst commenced to grow rapidly and pressure symptoms appeared.

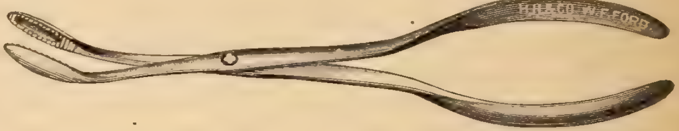
Dr. Abbott asked what Dr. Porter would do with small cysts of the ovary and of other organs.

Dr. Porter said that he would not operate upon a cyst until pressure symptoms appeared, even if it were as large as his fist.

Dr. McNutt had had a gynæcological clinic at the Woman's College for ten years. The gynæcological clinics at this college had an attendance ranging between thirty and fifty; they were said to be the largest in the country. It was not uncommon to see here very serious ovarian hyperæmia and prolapsus in patients who had left other clinics because an operation had been proposed. The speaker had seen but very few such patients who could not be relieved by padding in the knee-chest posture. Such treatment required patience, on the part of both the physician and the patient. It was much easier to perform laparotomy than to persist for weeks or months with this treatment, yet, if it was persisted in, the suffering was often soon relieved, and after a time a cure was effected. The speaker could even recall cases in which the woman had afterward become pregnant and the happiness of a home had thus been completed. She thought that laparotomy was seldom indicated, and should in no case be done until the physician had exhausted all other means which the experience of others as well as his own could present.

Dr. S. E. Post stated that in her opinion also the pain and the reflex symptoms connected with diseased ovaries and tubes were due to pressure upon the diseased part—in salpingitis, pressure upon the fimbriated extremity of the tube. When congested, the Fallopian tube folded backward and the extremity lay behind the uterus. This extremity might become hypertrophied and nodulated, and was often undoubtedly mistaken for an ovary in this position. It was, as a rule, extremely sensitive, even a slight examination giving rise to a persistent aching pain, but seldom or never causing the nausea and the disturbances of vision which appeared where the ovaries were concerned. Lying between the uterus and the rectum, this body was subjected to a good deal of friction and pressure, the latter being in the long-standing case aggravated by a matting of lymph or even inflammatory adhesions. The shortening of the posterior *cul-de-sac* was often a consequence of this condition. In cases of prolapsed tubes, as well as in those of prolapsed ovaries, the elevation and protection of the sensitive part had been the object of treatment. In some cases simply stretching the *cul-de-sac* had relieved the pain without altering the relations of the tube, while in others the extremity of the tube had been apparently liberated so that it spontaneously rose to its proper place. Also after elevation a discharge had sometimes been noted, suggesting the drainage of the tube through the uterus. In three cases a pronounced inflammation of the vulva had been the result; in others the discharge had not irritated the parts. In the opinion of the speaker, catarrhal salpingitis could often be traced to puerperal conditions; it was very common; it included the greater part of the cases classed as cellulitis in the books, and its symptoms could, as a rule, be relieved by protection, rest, and the hot douche. It would be as rational to perform hysterectomy for endometritis as to do Tait's operation for this disease.

Dr. Nilsen thought with Dr. Porter that tumors often existed without giving rise to symptoms, but he had never found those cases. Patients were brought to him on account of their symptoms, in the absence of which he did not find occasion to perform laparotomy. Of course, he would not remove cystic ovaries if symptoms had not appeared. In reply to Dr. Currier, he said that he certainly wished to be called conservative, if anything, and would not think of resorting to laparotomy for the cure of retroflexion until all other available means had been exhausted. This operation did, however, appeal to him as a rational last resort in a certain number of cases, which he thought he had made clear in his paper. A great deal of patience, ingenuity, and skill was required in their treatment, and, if his predictions about laparotomy were ever fulfilled, the frequency of its use would be determined by the degree in which the attributes of such men as Fritsch become attainable by the general practitioner or the specialist.



A Uterine Tent Forceps.—Dr. Wilcox said that when he was house surgeon of the Woman's Hospital, following the example of his predecessors, he had been accustomed to use the Emmet curette forceps for the insertion of tents into the uterus. That instrument, although well adapted to the purpose for which it had been originally intended, had not been suited for the introduction of tents, but it had been the best instrument at his disposal. Its faults were: First, the jaws were too long and too smooth; second, the scissor-handles were awkward to manage; third, the whole instrument was too long. In the instrument presented these faults had been remedied; the proper length of the jaws had been determined by experiment; they were made rough so that the tent, once within their grasp, was firmly held; they were curved so that a full view of the tent and cervix was obtained. The handle was modeled after those now in use on the Collier needle-holders, and the instrument was readily taken apart to insure cleanliness.

The forceps could be obtained of Hazard, Hazard, & Co., of Fifth Avenue and Twenty-fourth Street, whose work upon this instrument was in keeping with their high reputation.

Book Notices.

The Diseases of the Ear and their Treatment. By Arthur Hartmann, M. D., Berlin. Translated from the Third German Edition by James Erskine, M. A., M. B., Surgeon for Diseases of the Ear to Anderson's College Dispensary, Glasgow, etc. With Forty-two Illustrations. New York: G. P. Putnam's Sons, 1887. Pp. xiv–285. [Price, $2.75.]

This book consists of an historical preface on aural surgery, and eleven chapters treating of diagnosis, symptomatology, ætiology and prophylaxis, general therapeutics, diseases of the auricle, external meatus, membrana tympani, middle ear, internal ear, traumatic lesions, neoplasms and malformations, and deaf-mutism. There are a large number of therapeutic formulæ, a full list of instruments employed, and an excellent index. In the article on testing the hearing, the subdivision on testing with tuning-forks is most admirable. The diagnostic and therapeutic application of the air-douche is very thoroughly discussed, and the author speaks in high terms of the application of medicated fluids to the mucous membrane of the tympanic cavity. In the chapter on acute purulent inflammation of the middle ear, the author has found the combined application of warmth and cold to be of great service in many cases. The region below the auricle is covered with cold compresses or an ice-bag, and at the same time warm fluids are instilled into the external meatus, or warm sponges are placed upon its orifice. For the nightly exacerbations of pain, solutions of potassium iodide (from 7 to 15 grains) are very useful, as is also a half-per-cent. solution of atropine. In the chapter on opening the mastoid process, the author recommends that the opening in the bone be made in a forward direction, parallel to the axis of the meatus. The operation is performed by chipping off layers of bone with a grooved chisel, giving the canal the shape of a funnel. It ought not to be made deeper than 16 mm., as otherwise there is danger of opening the canal of the facial nerve, or the semicircular canals. In the chapter upon diseases of the internal ear, the section on disease of the cerebral tracts of the auditory nerve and center is particularly worthy of perusal. Due credit is given to Munk and Wernicke for their labors in this field. The making of the book, so far as the printer and publishers are concerned, deserves the highest praise. The illustrations are not numerous, but they are all good, and there is a very complete index both of subjects and of authors.

Medical Electricity: a Practical Treatise on the Applications of Electricity to Medicine and Surgery. By Roberts Bartholow, A. M., M. D., LL. D., Professor of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College of Philadelphia, etc. Third Edition, enlarged and improved. With One Hundred and Ten Illustrations. Philadelphia: Lea Brothers & Co., 1887. Pp. xxiv–17 to 304. [Price, $3.50.]

The good things said of the earlier editions of this work are fully justified by the third edition, which is even better than its predecessors. Dr. Bartholow's literary methods are very attractive, and his books are all readable. In this volume the subject-matter is extended by the introduction of chapters upon the electric light and electric surgery generally, and he has greatly amplified his consideration of the uses of the galvanic and faradaic currents. Although he commends the use of static electricity, he does so with evident reserve.

L'amputation du membre supérieur dans la contiguité du tronc (amputation interscapulo-thoracique). Par Paul Berger, chirurgien de l'hôpital Tenon; professeur agrégé à la Faculté de médecine, etc. Avec figures dans le texte, et 2 planches en chromolithographie. Paris: G. Masson, 1887. Pp. 371.

This is one of those beautifully printed monographs in which the French excel. The subject is carefully arranged in subdivisions, each subdivision is given the greatest possible importance, and, after the reader has gone from preface to index, he is convinced that no minute detail connected even in the most remote way with amputation at the shoulder joint can have been omitted. For example, a separate chapter is devoted to the section of the muscles connecting the scapula and the separation of the limb, another to the resection of the clavicle, a third to the preliminary incisions, etc. This makes a very complete book; but a very busy man and concise writer would put it all into much less space.

The author has collected fifty-one cases, and has found quite a number by American surgeons, though not one in twenty of those actually performed here. He then analyzes the results, and studies the causes of death. A chapter is devoted to the remote results, and another to the indications for the operation. The latter are divided into tumors, gunshot wounds, and crushing and tearing off of the limb. The illustrations are exceedingly good, especially the two chromo-lithographs representing the anatomical points in the operation. On the whole, the book is very readable, but almost all that is in it was pretty well understood before.

Earth as a Topical Application in Surgery. Being a full Exposition of its Uses in all the Cases requiring Topical Applications admitted in the Men's and Women's Surgical Wards of the Pennsylvania Hospital during a Period of Six Months in 1869. By Addinell Hewson, M. D. Second Edition. With Four Photo-relief Illustrations. Philadelphia: The Medical Register Co., 1887. Pp. xx–25 to 309.

The title of this practical and useful monograph explains pretty fully its nature. The greater part of it consists of clinical reports of cases in which a dressing of dry earth was used, and the remainder is an elaborate exposition of the chemical constituents of different earths and the mode of their action. The former is the better, as the cases are carefully studied and reported, while the latter is too prolix for the practical reader. The results obtained by the author were in some instances remarkably good, and the book as a whole is a valuable one for the working surgeon.

A Compend of Surgery for Students and Physicians. By Orville Horwitz, B. S., M. D., Demonstrator of Anatomy in Jefferson Medical College, etc. Third Edition, thoroughly revised, enlarged, and improved. With Ninety-one Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. viii–9 to 210.

Every attempt to compress the surgery of the present day into a small quiz-book must of necessity be a failure. This is, perhaps, a less dismal failure than some others of the same class; but, if the author's aim had been to make the study of surgical literature as near akin to the perusal of a dictionary as possible, he would have gone about it in some such way as this. Believing, as we do, that quiz-books are calculated to do harm instead of good, it is useless to attempt a criticism of this particular one.

BOOKS AND PAMPHLETS RECEIVED.

Abdominal Surgery. By J. Greig Smith, M. A., F. R. S. E., Surgeon to the Bristol Royal Infirmary; Late Examiner in Surgery, University of Aberdeen, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xii–606. [Price, $5.]

The Sixty-third Annual Report of the Officers of the Retreat for the Insane at Hartford, Conn., April, 1887.

Note on the Treatment of Amenorrhœa with Permanganate of Potash. By Thomas A. Ashby, M. D., of Baltimore. [Reprinted from the "Maryland Medical Journal."]

The Climatic Treatment of Consumption. A Contribution to Medical Climatology. By James Alex. Lindsay, M. A., M. D., Physician to the Consumptive Hospital, Thronemount, Belfast, etc. London and New York: Macmillan & Co., 1887. Pp. xii–228. [Price, $1.75.]

Ichthyol and Resorcin. A Clinical Study of their Effects. By George Thomas Jackson, M. D., Assistant Visiting Physician, New York Skin and Cancer Hospital.

Congenital Occlusion of the Posterior Nares. By Alvin A. Hubbell, M. D., Buffalo, N. Y. [Reprinted from the "Buffalo Medical and Surgical Journal."]

Cuneiform Osteotomy for Anterior Curvature of both Tibiæ and both Fibulæ. By Milton Josiah Roberts, M. D., etc. [Reprinted from the "Therapeutic Gazette."]

A New Series of Berlin Wools for the Scientific Detection of Subnormal Color-perception (Color Blindness). By Charles A. Oliver, M. D., etc. [Reprinted from the "Medical News."]

A New Series of Metric Test-Letters and Words for Determining the Amount and Range of Accommodation. By Charles A. Oliver, M. D., etc. [Reprinted from the "Medical News."]

Reports on the Progress of Medicine.

SURGERY.

By M. L. FOSTER, M. D.

Operations on Diabetic Patients.—König ("Ctrlbl. f. Chir.," 1887, No. 13) reviews the points usually taken into consideration regarding the performance of major operations, especially amputations, on diabetic patients. They are as follows: 1. There is a marked predisposition on the part of diabetic patients to the reception and propagation of microbes and to the sloughing of the tissues. Very frequently an atheromatous degeneration of the arteries is found. 2. Necrotic processes are met with not only in old, broken-down subjects very ill with diabetes, but also in patients in middle life in apparently good condition, who have never had any marked thirst or polyuria. Hence, when a suppurative or gangrenous process appears, idiopathically or complicating a slight wound, the urine should be examined for sugar. 3. The treatment of inflammation and gangrene occurring in diabetics must be directed to the diabetes. 4. The major operations, such as amputations, are to be avoided as long as the constitutional and local symptoms of diabetes persist, the urine contains sugar, the patient is in a low condition, comatose, or in a suppurative fever, or as long as the presence of a diabetic dyscrasia is manifested by extension of the necrotic process.

But König is of the opinion that this method of treatment is not infrequently continued until the patient dies from the combination of severe local and constitutional trouble, when a departure from this rule might have saved his life. During the past year he has amputated at the lower part of the thigh, for gangrene spreading from the foot, in two patients very ill with diabetes. Previous to the operation, in spite of energetic antiseptic and antidiabetic treatment, in each case the sickness took on daily a more threatening character. In one case the sugar increased, and the patient became comatose and greatly emaciated, while the local trouble did not decline. In the other the sugar became less, but the local trouble increased, and a secondary abscess appeared in the thigh, with high fever and emaciation. After the operation the bad symptoms in both cases disappeared at once, the excretion of sugar was reduced to a minimum, and the wounds healed under strict antiseptic precautions without accident, and as readily as similar wounds heal in healthy persons. This shows that there are certain cases in which diabetes and local gangrene by their mutual reaction grow steadily worse, so that antidiabetic treatment will produce no effect until the local lesion is removed. Hence, the following amendment is proposed to the fourth position usually taken: If, in a case of diabetic gangrene, in spite of antidiabetic treatment and antiseptic dressings, the constitutional disease and the local lesion do not improve, and longer delay is fraught with danger to the patient, the preservation of life should be sought for by a radical operation, usually an amputation, undertaken with the most careful antiseptic precautions.

Umbilical Cysts.—Roser (*ibid.*, No. 14) indorses Tillmann's view that cysts of the umbilicus having an acid secretion can be traced back to a cutting off at this point of a portion of the stomach near the pyloric extremity during fœtal life. In Roser's case the cyst had been repeatedly opened as an abscess until a fistula finally remained. From this flowed a very acid secretion, which excoriated the surrounding parts. He excised the cyst, which presented microscopically the appearance of the mucous membrane of the stomach, thickly studded with mucous glands, covering a layer of smooth muscle fibers, very similiar to those of the wall of the stomach. He suggests that the formation of these cysts can be more easily understood if we remember that in early fœtal life the stomach occupies a perpendicular position, and the pylorus is near the navel. If, then, a particle of the stomach-wall becomes attached at the navel, holding the pylorus, when it withdraws from that position it is easily understood how diverticula, and cysts from the cutting off of the diverticula, may be formed.

Fractures of the Lower End of the Radius.—Lesser maintains (*ibid.*, No. 15) that, with the usual methods of treating fractures of the lower end of the radius, there is quite a number which present considerable difficulty in the restoration of the normal movements of the hand, wrist, and forearm, so that massage, electricity, passive motion, forced motion under anæsthesia, and sometimes operative procedures are necessary. He believes that this fracture is usually accompanied by more or less injury of the lower end of the ulna, and that this must be considered, though it may seem to be of small account. He states that he has not failed to restore the normal movements since he adopted his present method of treatment. The same dressing is indicated as in fractures higher up the forearm, and he recommends the application of a plaster-of-Paris splint from the middle of the arm to the metacarpus, holding the elbow at a right angle, the forearm fully supinated, and the hand in ulnar abduction. This dressing is to be left on two weeks or two weeks and a half. He prefers plaster of Paris, but considers it unimportant whether this or any other form of splint which meets the indications is used. In any case the splint should not extend farther than the metacarpus, leaving the fingers as free as possible. He agrees with Volkmann that the interference with pronation and supination after recovery from this fracture is often to be found in the contraction of the interosseous membrane when it is not fully extended, and to an adhesion of the fragments of the radius and ulna with one another. These mishaps occur when the axis of the ulna crosses that of the radius, which is the case when the forearm is fixed in a semiprone, and still more when in a prone position. Hence the forearm should be placed in complete supination, with the thumb parallel with the body, as in that position the interosseous membrane is extended and the bones are most nearly parallel.

Lesser narrates two interesting cases in which he operated for ankylosis following this fracture. In the first case, that of a boy thirteen years old, not only the wrist joint, but nearly all the finger joints, were rigid, the flexor tendons were involved in the callus, and the muscles of the hand were atrophied. The radius was divided at the seat of fracture, the first phalanx of the thumb was chiseled free from the metacarpal bone, and the flexor tendons were cut free from the callus. Long-continued passive motion, electricity, and massage finally gave the boy a useful hand. In the second case, that of a boy nineteen years old, six weeks after a compound fracture pronation and supination were possible, but the patient noticed a rubbing as of bones in the middle of the forearm. From this time on these motions became less until, twenty-five weeks after the accident, the arm appeared atrophied, the muscles flabby and shrunken, and the skin wrinkled, cool, and marbled with cyanotic spots. Active flexion and extension of the wrist was feeble, passive motion was practicable to about half the normal extent, but supination was impossible. The nails were claw-shaped and thickened; the fingers could be spread but little; the grip was weak. An irregular scar on the volar surface of the wrist was tender on pressure over the lower ends of both radius and ulna, which were very prominent. An exostosis as large as the end of the little finger was found extending from the radius, pressing against the ulna. This was removed and a bony ankylosis in the radio-ulnar joint was broken up. The capitellum of the ulna was also resected. After eleven days, active and passive motion of the wrist were begun. Two months after the operation, the patient was able to resume work.

Iodoform as an Antiseptic.—Heyn and Roosing ("Fortschritte der Medicin," v; "Ctrlbl. f. Chir.," 1887, No. 16) have made several experiments to determine the antiseptic value of iodoform. They find that mold fungi, the *Staphylococcus pyogenes aureus*, pneumococci, and other bacteria in serum, gelatin, and agar-agar live and grow equally well after the admixture of iodoform or iodoformized oil. The *Staphylococcus pyogenes aureus* remained alive more than a month in dry iodoform powder. The introduction of iodoform into sterilized gelatin by means of a blower or a brush was followed in a few days by flourishing colonies of bacteria. They quote Johann Olsen as having found that the cocci of osteomyelitis grew abundantly on a slice of potato covered with a layer of iodoform a millimetre deep.

The Surgical Treatment of Pulmonary Cavities.—Mr. R. J. Godlee ("Lancet," Mar. 5, 12, Apr. 2, 9, 1887) classifies the cases in which surgery may be of benefit as: 1. Tubercular cavities. 2. Cavities resulting from gangrene of the lung. 3. Cavities resulting from the bursting into the lung of abscesses or other collections of irritating matter from without. 4. Bronchiectases, from whatever cause arising, including those which depend on the presence of a foreign body in the air-passages. When the lung contains many tubercular cavities or many foci of gangrene, no benefit can be hoped for from surgical procedures. Tubercular cavities should be opened only when the cough is harassing and the cavity single. Injections may be used to palliate symptoms, but can not be expected to be curative. He considers that the majority of gangrenous abscesses of the lung result from acute pneumonia and are situated at the base of the lung. Upon these he recommends an operation soon after the position of the abscess has been definitely ascertained, although some cases end in spontaneous recovery, because, if the opening into the bronchus is too small or unsuitably placed, the sac is always more or less full of fœtid, highly septic, and irritating pus, and the abscess grows larger instead of smaller. The presence of this fœtid pus in the bronchi may also produce serious consequences in the sound lung as well as in the diseased one. Before making an incision, the situation of the abscess should be definitely ascertained with an exploring needle or trocar. If this impinges on a firm substance it has probably struck a bronchus, and it is preferable to make a fresh puncture or to work around the bronchus rather than to penetrate it, because such a wound might cause sufficient hæmorrhage to suffocate an anæsthetized patient, although not of dangerous amount in itself. The wall of a gangrenous or bronchiectatic abscess does not give this sense of resistance. From a consideration of the cases in which he has operated for gangrene of the lung, he concludes: 1. The cavity should be well opened up and explored by the finger, and a long drainage-tube inserted. 2. The tube must be kept in until the discharge has almost, and the expectoration quite, ceased, while the temperature remains low, for the cavity is probably intricate, and it is likely the walls will have to throw off sloughs and can not immediately assume the healthy condition met with in most empyemata. The prognosis is not bad if the operation is successful. The same may be said regarding rupture of abscesses into the lung. Foreign bodies in the bronchi are liable to cause bronchiectatic abscesses, which should in like manner be opened. He considers that, if possible, early attempts should be made to remove the foreign body by methodical inversion of the patient, and if this fails he favors tracheotomy and an attempt to remove it with a loop of silver wire or a delicate curved forceps. Bronchiectatic cavities from other causes can be cured by free incision and drainage if single, but this condition is rarely found. When they are multiple, if a large main cavity can be made out, it should be freely opened to prevent the secretion passing through the bronchi or being drawn into other parts of the lung, and to diminish the cough, because, unless this is done, a considerable number soon become affected with blood poisoning. Mr. Godlee emphasizes the necessity of care in the use of an anæsthetic in these cases. He usually prefers chloroform on account of the danger of blocking the tubes by the copious secretion of mucus during ether administration, or by the cough suddenly emptying the abscess.

Hallux Flexus.—Mr. Davies-Colley (*ibid.*, April 2, 1887) calls attention to a condition which he says he has not found described in surgical writings. He has had five cases within the last nine years. The disease consists of flexion of the first phalanx of the great toe at an angle of from 30° to 60°, with extension of the second phalanx and some swelling and stiffness of the metatarso-phalangeal joint. There was no paralysis of the extensor proprius hallucis. The flexors of the first phalanx and the plantar fascia were not primarily affected. Walking was painful, the patients resting their weight on the outer border of the foot. He gives two causes: 1. An injury to the joint, followed by contracture, as at the knee joint. 2. The pressure of short rigid boots on an abnormally long great toe. He has excised the proximal half of the first phalanx in two cases, and tenotomized the tense bands in the others. All the patients did well except one, who returned two years after tenotomy with the toe flexed to a greater degree, and having some outward displacement. A good result was then obtained by resection of the metatarso-phalangeal joint. All the cases were in young men. He judges that later in life the deformity may change to hallux valgus, and suggests that it be called hallux flexus. Treatment should be first attempted with rest and a splint.

Cystic Disease of the Testicle.—Mr. Eve (*ibid.*, March 19, 1887) bases on a microscopic examination of twelve selected specimens and twenty-eight recorded cases in which microscopic examination had been made, the following conclusions: 1. No specific difference exists between innocent and malignant cystic tumors. 2. They originate in the hilum testis. 3. There is probably a new formation of epithelium, or an adenomatous growth. 4. The prototype of this is found in the tubules of the vasa efferentia, the rete testis, and the coni vasculosi, which are formed from the Wolffian body. 5. There are grounds for believing that the epithelial formations in cystic tumors originate from certain outgrowths from the Wolffian body described by Klein as interstitial cells, and normally occupying the hilum. 6. It is incorrect to attribute their origin to the organ of Giraldès, as this lies outside the testicle.

Tracheal Catheterism.—In establishing natural respiration after tracheotomy considerable difficulty is sometimes met with. To obviate this, Mr. Bilton Pollard (*ibid.*, April 30, 1887) advocates the prolonged use of the tracheal catheter. He relates three cases in which attempts by the usual methods had been perseveringly made, in two for more than a year and a half. In two cases the chief cause was laryngeal spasm, in the third a genuine stricture. The catheters in the last case served as a means of continuous dilatation. They were kept in until the tracheotomy wounds were healed.

Myxœdema.—Mr. Shelswell asks (*ibid.*, April 2, 1887) if there is any special tendency to hæmorrhage in myxœdema. He cites two cases in which severe hæmorrhage followed extraction of teeth in patients suffering from this disease. The teeth were loose, and the gums spongy but very adherent to the teeth. In neither case was there any history of hæmophilia. Menorrhagia, ecchymoses from slight causes, bleeding from the gums, and purpuric patches have been reported at various times as occurring with myxœdema. The amplification of connective tissue, combined with mucous infiltration, developed most, perhaps, in the outer coats of the arteries, interferes with their muscular contraction, and forms a condition favorable for the production of excessive hæmorrhage. The sympathetic, through the vaso-motor system, may also be at fault. He mentions that six ounces of the blood from the gum of one of his patients was kept some time, but only a very imperfect clot formed on the surface. This he refers to the large amount of saliva mixed with the blood. Too few cases are yet reported to determine whether there exists any special tendency to hæmorrhage in myxœdema or not.

Subglottic Growth.—Mr. Carpenter (*ibid.*, March 12, 1887) reports a successful removal of a subglottic growth from a patient aged eighteen years. She had never been able to speak aloud, and her cry, when a baby, had been peculiar. On laryngoscopic examination, a pedunculated tumor of about the size of a split pea, with a somewhat elongated pedicle, of a pink color and lobulated surface, was seen at the anterior commissure. The pedicle disappeared under the right vocal band, and seemed attached just below it to the thyreoid cartilage. It moved backward and forward in the current of air, appearing above the bands and then descending almost out of sight. The breathing-space was diminished about a fifth during expiration. There was no dyspnœa. During attempts at phonation the tumor wedged itself between the anterior attachments of the bands. The tumor was removed under cocaine anæsthesia with a Mackenzie's tube-forceps. The following day the patient spoke in a natural voice.

Digital Exploration for Tumors of the Bladder.—Guyon maintains that digital exploration of the bladder for tumors by way of the perinæum is rarely if ever necessary, and cites fifteen cases in which the diagnosis was made by the *toucher rectal*. In reply, Sir Henry Thompson calls attention ("Ann. des mal. des organes génit.-urin.," Feb., 1887) to the fact that in thirteen of the cases the tumor was carcinomatous or epitheliomatous, and in only two papillomatous. He maintains that they have been treating of two wholly different subjects, for, while he acknowledges the diagnostic value of rectal examination in cases of cancerous tumors of the bladder, these are cases in which he refuses to operate, except in certain instances to relieve pain. Papillomata, unless very large, he does not believe can be felt *per rectum* or with the exploring sound. When the history is evidently that of a vesical growth, and no proof can be obtained by microscopical examination of *débris* washed from the bladder, or by the introduction of a flat-bladed lithotrite, he advises a little *boutonnière* to be made and the finger introduced into the bladder. The diagnosis can then usually be made and the tumor removed, if small, at once. For large tumors he advises the suprapubic operation. He suggests that Professor Guyon has not yet begun to deal surgically with papillomata of the bladder.

Cocaine Poisoning.—Mannheim reports these symptoms to have followed a subcutaneous injection of a grain and a half of cocaine in a patient fifty-seven years old ("Dtsch. med. Woch.," 1886, No. 28; "Ctrlbl. f. Chir.," 1887, No. 13): Three quarters of an hour after the injection the limbs of the patient were without sensation, the pupils were much contracted, and the pulse was rapid. Two hours later the pupils were abnormally dilated, the heart was beating violently, and the secretion of urine was very much increased. The skin was constantly cold, and there was difficulty in swallowing, with cessation of the secretion of saliva, heavy breathing, and complete sleeplessness for thirty hours. The attack returned after the main symptoms had passed away, first after two days and again at the end of a week.

Miscellany.

The Long Island College Hospital.—The reading and recitation term, which began in March, has lately closed. During the three months' session the students have had the advantages of the new maternity wards of the hospital, and have attended two abortions and seventeen confinements. In attendance upon these cases they witnessed the following complications and operations: Complete inversion of the uterus and its reduction, 1; placenta prævia, 2; transverse presentations, 3; twins, 1; hydrorrhœa (post partum), 1; forceps deliveries, 2; breech deliveries, 2; external version, 2; internal version, 1; restoration of the perinæum, 3; curetting after abortion, 2.

The Health of Boston.—During the week ending Saturday, June 18th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 12 cases and 6 deaths; scarlet fever, 12 cases and 1 death; typhoid fever, 15 cases and 3 deaths; measles, 86 cases and 2 deaths. There were also 29 deaths from consumption, 8 from pneumonia, 4 from whooping-cough, 7 from heart disease, 3 from bronchitis, and 4 from marasmus. The total number of deaths was 138 as against 143 in the corresponding week last year. The death rate was 17·9 in a thousand, that for the week ending June 4th having been 17·16 in a thousand, which was said to have been the lowest for five years.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending June 16th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending May 28th corresponded to an annual rate of 20·4 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Sunderland, viz., 15·7, and the highest in Manchester, viz., 32·3 in a thousand. During the quarter ending March 31, 1887, there were 143,346 deaths registered in England and Wales, corresponding to an annual rate of 20·6 in a thousand of the estimated population.

London.—One thousand five hundred and thirty-four deaths were registered during the week ending May 28th, including 112 from measles, 22 from scarlet fever, 14 from diphtheria, 73 from whooping-cough, 5 from enteric fever, and 10 from diarrhœa and dysentery. There were 333 deaths from diseases of the respiratory organs. Different forms of violence caused 56 deaths, and 10 suicides were registered. The deaths from all causes corresponded to an annual rate of 19 in a thousand. In greater London, 1,878 deaths were registered, corresponding to an annual rate of 18·1 in a thousand of the population. In the "outer ring" 21 deaths from measles, 12 from whooping-cough, and 9 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending May 28th, in the sixteen principal town districts of Ireland, was 23·8 in a thousand of the population. The lowest rate was recorded in Lurgan, viz., 10·3, and the highest in Limerick, viz., 36·7 in a thousand.

Dublin.—One hundred and sixty-three deaths were registered during the week ending May 28th, including 17 from measles, 1 from typhus, 3 from whooping-cough, 1 from enteric fever, and 2 from diphtheria. Diseases of the respiratory organs caused 22 deaths. In twenty-five instances the causes of death were uncertified, and 3 accidental deaths were registered. The deaths from all causes corresponded to an annual rate of 24·1 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending May 28th was 22·6 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Leith, viz., 18, and the highest in Greenock, viz., 27·4 in a thousand. The aggregate number of deaths registered from all causes was 564, including 19 from measles, 6 from scarlet fever, 43 from whooping-cough, and 10 from diarrhœa. During the quarter ending March 31, 1887, there were 20,036 deaths registered in Scotland, corresponding to an annual rate of 20·4 in a thousand of the estimated population.

During the month of April there were registered in eight principa towns 2,403 deaths from all causes. Allowing for the increase of population, this number is 258 below the average for April during the last ten years. One thousand one hundred and six, or 46 per cent., were of children under five years of age.

Germany.—The deaths registered in fifty-one cities of Germany, having an aggregate population of 6,749,522, during the week ending May 21st, corresponded to an annual rate of 24·7. The lowest rate was recorded in Stuttgart, viz., 10·7, and the highest in Augsburg, viz., 50·2.

Calcutta.—Two thousand nine hundred and thirty-six deaths were registered during the quarter ending March 31st, including 376 from cholera (77 in January, 83 in February, and 216 in March).

Buenos Ayres.—Seven hundred and ninety-seven deaths were registered during the month of March, 1887, including 23 from cholera, 10 from small-pox, 28 from enteric fever, 3 from scarlet fever, and 46 from diphtheria. The United States consul, under date of April 25th, reports that "cholera has about disappeared, and diphtheria is epidemic in this city."

Mortality Table, Foreign Cities.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Calcutta	April 23.	433,219	246	77	....	...	....	....	....	1
Calcutta	April 30.	433,219	202	60	....	....	....	....	....	....
Warsaw..........	May 14.	439,174	191	..	...	12	....	....	....	....
Warsaw..........	May 21.	439,174	188	..	....	14	....	...	....	...
Paris	May 21.	2,260,045	1,093	..	....	10	....	15	4	36
Paris	May 28.	2,260,045	1,114	..	...	13	....	16	2	43
Havre............	May 21.	112,074	54	..	....	5	....	4	1	1
Havre	May 28.	112,074	62	..	....	4	...	1	....	1
Reims	May 21.	97,903	43	..	....	....	.. ..	1	....	....
Bremen..........	May 21.	119,000	60	...	....	....	....	....	....	1
Leipsic...........	May 21.	170,000	61	..	....	....	....	....	....	5
Munich..........	May 21.	269,000	222	..	....	....	....	....	1	1
Stuttgart.........	May 21.	125,510	27	..	....	....	....	....	....	1
Trieste...........	May 21.	150,157	61	..	....	5	....	....	....	1
Amsterdam	May 28.	378,686	170	..	....	1	2	....	....	5
Copenhagen......	May 17.	290,000	108	..	....	.. .	....	1	....	4
Palermo	May 21.	250,000	99	.	....	1	....	1	11	1
Palermo	May 28.	250,000	99	..	....	....	1	1	15	5
Genoa	May 21.	179,362	118	..	....	....	....	2	...	....
Rome............	April 16.	69,214	147	..	....	4	....	5	1	3
Pernambuco	May 17.	111,000	87	..	....	.. .	1	2	....	....
Guayaquil	May 13.	35,000	37	..	....	4	....	7	....	....
Bristol...........	May 28.	223,695	78	..	....	....	....	....	3	....
Glasgow	May 28.	545,678	232	..	....	....	....	....	2	....
Belfast..........	May 21.	224,422	101	.	....	....	....	....	2	3
Edinburgh.......	May 28.	258,629	100	..	....	....	....	....	2	....
Toronto..........	June 4.	120,000	33	..	..	....	....	....	1	4

United States.

Key West—Yellow Fever.—The president of the board of health reports 26 cases and 9 deaths up to June 14th.

Subsistence supplies and medicines are being furnished the yellow-fever hospital from the Marine-Hospital stores at Key West.

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